THE

physiotherapy REVIEW

Medical Library

Twenty-Fifth Anniversary

TABLE OF CONTENTS

	Page
A Functional Training Center—Rebecca McNees	115
The Rehabilitation Center of San Francisco, Inc.—Hazel Furscott	118
A History of the American Physiotherapy Association. Part III: Coming of Age, 1931-1938—Ida May Hazenhyer, M.A.	122
Graduation Greetings—Herman Chor, M.D.	129
The Veteran Rehabilitation—Howard A. Rusk, M.D.	131
Hospital Service in the United States—F. H. Arestad, M.D., and M. G. Westmoreland, M.D.	133
Schools for Physical Therapy Technicians	134
Editorials	136
Abstracts—John S. Coulter, M.D.	143
Book Reviews	155
Chapter Directory	159

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The Physiotherapy Review

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Volume 26 **MAY-JUNE 1946** **Number 3**

A Functional Training Center

Rebecca McNees

Like many other developments in medicine, functional training for the physically handicapped was not originated during the war, but rather was accelerated by our war-time experience. Long before this war many civilian physical therapists were aware of the futility of routine exercises carried out in the face of a fixed disability, often over the protest of the handicapped individual. These physical therapists found that they soon lost interest in chronic poliomyelitis cases, hemiplegia cases and an even more discouraging group of patients, many from the first World War, the transverse myelitis cases.

What is the purpose of physical therapy for the individual with a permanent physical disability that fetters him to a bed or a wheel chair and makes it impossible for him to work and enjoy a normal social life? Through the past few years Army and civilian experience has combined to answer this question. Teach the individual to live as normally as possible in his physical environment in spite of that handicap—teach him how to stand, sit and walk, how to dress himself and tend to his bodily needs; finally, teach him a skill by means of which he can earn at least part of his board and perhaps gain economic independence. This sort of training does not supersede routine exercises; it gives them purpose and direction.

A little over a year ago, no center existed in Philadelphia where the physically handicapped could go for training of this sort. Surgery, braces, crutches and medical care were readily available, but how was the individual to learn to use these aids properly?

In August 1945, with the help of Dr. George Deaver of the Institute for the Crippled and Disabled in New York, the Metropolitan Philadelphia Society for Crippled Children (affiliated with both the State and National Society for Crippled Children) refinished and equipped a large room on the second floor of its headquarters building and opened this room as a functional training center. Since then over 37 patients have come to the center for instruction, giving us an average of 179 treatments a month since the beginning of this year. The center is under the full-time direction of a member of the staff who is both a nurse and a physical therapist. At regular intervals a clinic is held with Doctor Deaver for these patients.

The Society's training center is a large, attractive room painted a light cream, with the molding in gray and the apparatus in Chinese red. Nine large windows provide good lighting. The floor is wood with a clear finish. The most interesting feature, of course, is the equipment which can best be described in functional units, that is, apparatus for: (1) training in locomotion, (2) for daily skills and (3) for special hand activities.

As you enter the room from the stairs, you see first an exercise mat, covered with red leatherette which is easy to keep clean and provides a good sliding surface. Here our transverse myelitis cases and poliomyelitis cases with double leg involvement are taught the exercises preliminary to crutch walking. They get onto the mat from their wheel chairs or stretchers by means of a set of

Fifth and Providence Road, Media, Pennsylvania.

detachable stairs or graduated stools (practically no lifting is done), lowering themselves with their arms. A chart of each individual's progress in the mastery of mat technics has a prominent place on the wall. After a patient has gained sufficient strength in his arms and agility in moving legs and trunk, the mat can be pushed over to the stall-bars (constructed of heavy pipe) and the individual taught to pull himself up to a standing position with braces. He goes on to try the stairs, with and without braces, and eventually masters the ramp and curb, a platform the height of a standard 8-inch curb, with a ramp at one end. Adjustable parallel bars will be obtained for the center in a short time.

Another part of the problem of locomotion is sitting and rising from chairs—not any one chair, but every kind of chair the patient may later encounter. For that purpose, we have distributed about the room desk chairs, folding chairs, classroom chairs and an upholstered chair. We also have a practice bed.

Those who have learned to walk, sit and climb are given practice in the complexities of getting about by means of the public transportation system. Near the stall-bars is a bus-and-trolley unit (Fig. 1), duplicating the entrances of both vehicles. The unit, donated to us by the Philadelphia Transportation Company, occupies a space

Figure 1.

of about 7 feet by 5 feet. Steps, platform and folding doors follow the latest design for standard transportation equipment. The crossbars and uprights available for the use of a person climbing into either bus or trolley are painted a light gray; pieces that provide the frame and are not found on buses or trolleys are painted a dark

Figure 2.

gray and the patient is not permitted to use them as aids. A few feet from this unit, and donated by the same company, is a fare-box and turnstile (Fig. 2) which fascinates our younger patients who, of course, would rather play operator than customer.

The second part of the equipment consists of exercise apparatus for hand and arm strength and materials for feeding and grooming. Attached to the wall, beyond the bus-and-trolley unit is a set of pulleys similar to those used by the Army Air Forces. The patient may sit or stand in front of them. At the other end of the room are two finger ladders about 4 feet in length, one notched at 2-inch intervals and the other with rungs graduated from ¾ inch to 3 inches. Next to these is a shoulder rotator constructed by our engineer who, in place of the customary cumbersome wheel, designed a wooden arm that turns on ball bearings. The patient grips a handle attached to the arm which rotates as the patient's arm circles and can be adjusted to accommodate his height and arm length. Those who can profit from exercise with this equipment are instructed in its use.

Others who have progressed beyond this stage or whose problem is principally one of coordination work at a table where a dinner service is laid out. They cut meat and potatoes made of

clay and practice handling cups and glasses. Buttons, snaps and hooks present a problem to a poliomyelitis case with weakness of thumb or fingers or to a cerebral palsied individual. This is overcome by long hours of practice on Montessori boards placed on the table, then against the chest. We have neckties for the men and a number of assembling games, including blocks and beads, for adults and children. Desk activities can be practiced at one of our office desks.

Accomplishment of the many small, daily skills which a handicapped individual must re-

Figure 3.

learn calls for a third type of equipment. This is comprised in what is called, for lack of a better name, gadget board (Fig. 3). This is a contribution of the Philadelphia Electric Company —a large board, about 5 feet long and standing 6 feet high, mounted on a frame that can be rolled on casters and is electrically wired. On this board are various types of locks and knobs, fitted realistically into small doors; faucets, light fixtures, wall plugs, electric bells, door handles, telephones of two styles and radio dials. In time, more pieces will be added, including hairdressing and shaving materials. With the use of this board and the games and hand equipment previously mentioned, our cerebral palsy, poliomyelitis, fracture and burn cases can acquire domestic skills with very little difficulty.

Thus the Society, with its functional training center, attacks physical rehabilitation in three directions. The program is geared to assist the patient to mastery in each of these directions as rapidly and efficiently as possible. It requires hard work on the part of the patient since nothing is done for him. He has, however, the help of the physical therapist and suggestions from others with a similar handicap.

As soon as the individual demonstrates that he can carry through the typical activities of the day unaided and that his methods are both practical and protective, he is discharged, always, however, with the understanding that he is to come back for further training if a change in his occupation or environment presents new functional problems which require new technics. He leaves the center with the fearlessness, selfconfidence and determination that accompanies physical mastery and a healthy mental attitude toward his physical disability.

Reprints Available

Reprints and pamphlets as listed below may be obtained from the following organizations:

American Physiotherapy Association, 1790 Broadway, New York 19, N. Y.:

"Physical Therapy — A Growing Profession." (Free)

"Physical Therapy: A Service and a Career." (Free)

"Physical Therapy in a Plastic Surgery Unit," by Honor C. Wilson. (Free)

"Proceedings of Poliomyelitis Round Table from 1944 Conference." (Price, 10c)

"Nursing and Physical Therapy Responsibilities in the Hospital Care of Patients With Infantile Paralysis." (Free)

"You Can Get Well Faster," by Drs. Donald and Nila Covalt. (Free)

"Physical Therapy Procedures Used in the Preoperative and Postoperative Care of Chest Surgery Patients," by Ora L. Huddleston, M.D., Roberta Winston and Miriam Engelland. (Free)

Joint Orthopedic Nursing Advisory Service, 1790 Broadway, New York 19, N. Y.:

"Improvised Equipment for the Physically Handicapped (1944)," by Margaret S. Arey. (Free)

"Hemiplegia" by William Bierman, and "Nursing Care in Hemiplegia" by Anne Prochazka.

"Nursing and Physical Therapy Consultation in State Crippled Children's Program" by Florence L. Phenix.

"An Orthopedic Service for the Community" by Jessie L. Stevenson.

The Rehabilitation Center of San Francisco, Inc.

Hazel E. Furscott

Much has been written about the necessity for integrated physical restoration and vocational services to our handicapped to recreate the spirit as well as the body, recognizing their indivisibility. We have seen the value of programs that coordinate the physical, emotional and vocational processes of rehabilitation demonstrated by the splendid work done in our military hospitals.

The very fact that we are met here today each interested in our own field of endeavor and yet acknowledging that each of us has a contribution inadequate unless complimented by the services of all is affirmation that we have a mutual desire to implement our combined purpose. This resolution brought down to the local level expresses itself in the community rehabilitation center.

The plans of the Baruch Committee on Physical Medicine for model rehabilitation centers show by their extensive studies the necessity for comprehensive programs in each community. San Francisco, a community of 830,000 population, the center of the Bay Area boasting a population of 2,700,000, has at present no coordinated program of its physical, mental, social and vocational activities for the handicapped or disabled. With the thought in mind of supplying such a service, a group of six interested individuals, both lay and professional, met to study the community problem.

Study of existing community resources, the gaps, duplications and omissions revealed that San Francisco has hospitals, clinics, psychiatric centers, visiting nurses, a crippled children's school, vocational guidance programs, employment services, etc.—each agency fulfilling its function but none having either the program or facilities for implementing a correlated program. The city also has two medical schools each of which has an approved school of physical therapy, and there are two approved schools of occupational therapy in the area.

The omissions in service are not only the lack of integration but also the absence of any occupational therapy for adults except in one psychiatric center, for children except in one hospital and the crippled children's school, which only goes to the eighth grade. There are no services for the handicapped of high school level and none for the home bound, either children or adults.

Having determined the need for a program this small committee examined the possibilities of a center. Financing, housing, administration, personnel, professional schools in the area, community service organizations, hospital and medical affiliations, public relations and the establishment of a community center for professional health groups were subjects for subsequent study.

The American Women's Voluntary Services were asked to sponsor the organization of a curative workshop. Upon acceptance they selected a board of directors which is indeed a cross section of the community. It includes representatives from industry, labor, service organizations, insurance, a banker, the American Women's Voluntary Services and both medical schools—an orthopedist from one, a psychiatrist from the other. The Board of Directors incorporated under the laws of the state of California as a nonprofit organization. With the creation of this board, the self-appointed committee of six, satisfied that it had performed its function, ceased to exist.

A grant from the Rosenberg Foundation (a local foundation) will finance the equipment for physical and occupational therapy and maintenance for the first year when the center, selling services to insurance companies, the state vocational rehabilitation physical restoration and vocational training services, private and state children's agencies and others, hopes to become self-supporting.

The California Physicians Service, the prepaid health insurance sponsored by the California Medical Association, has recently concluded a contract with the Veterans Administration for home town medical services to veterans. The Center will now be able to sell its services through the physicians registered under this plan on a fee schedule now in effect.

Administrator, The Rehabilitation Center of San Francisco, Inc., San Francisco, California.

Read before the Annual Meeting of the National Council of Rehabilitation, New York City, April 24, 1946.

A building especially designed for the services and approved by the City Planning Commission is being erected by private capital on lease to the Center. The lot is 86 ft. by 137 ft. on a flat block, well serviced by street cars, centrally located just outside of the business area. There will be no stairs to any of the patient activities which are all on the street floor level. The physical therapy, occupational therapy workshops and gymnasium are so arranged that the workers will constantly intermingle and coordination of the programs be geographically stimulated.

The building will surround a large outdoor court or patio made entirely of glass which will be planted and have an outdoor work area for sunny California days. The plans for the street floor include a patients' lounge, physicians' coat room and complete physical therapy department consisting of ten individual treatment rooms and one ward holding five plinths. The occupational therapy shops include a general handicraft room, a wood working shop, paint shop, pottery, print shop and dark room for photography. The fully equipped gymnasium will have dressing rooms, showers and lockers. Rooms are provided for psychiatric examination and vocational testing.

The second floor is for the employees. It will house an employees' lounge, dressing rooms, kitchen, dining room and sun deck. The director's office and business office will be on the second floor. The business office is directly above the receptionist's desk in the lobby below so that a dumb waiter may be used for chart delivery. There is also a library on this floor that will be developed into a library for professional groups interested in rehabilitation.

The kitchen which is next to the employees lounge will have a dumb waiter which will descend to the general handicraft workshop. The American Women's Voluntary Services which has been designated for volunteer services will run a canteen to serve lunch to the employees and those patients who stay at the Center all day. All interior partitions will be removable to allow the rooms to be fitted to the program as it develops.

The Center will start as a curative workshop which will provide the processes of physical and vocational rehabilitation and include a home-bound program. Hospital affiliation and a home project will afford the early care so necessary after recognition of a disability. Recognizing that occupational therapy and vocational guidance and training at the earliest possible moment not only has its psychological effect but is a great time saver of economic importance, the Center, by offering simultaneous programs of physical and vocational restoration under the same roof, hopes to prevent that loss of valuable time wasted when the vocational counselling, guidance and training await the end of medical and physical restoration services. As a matter of fact the vocational services can be coordinated to function as physical restoration services and so complement both physical and occupational therapy.

The Center is planning some program features beside the usual physical therapy, occupational therapy and reconditioning procedures. The Handicapped Division of the War Manpower Commission has worked out job analyses for the handicapped worker in many industries and selective placement based on these analyses was most successful in our war effort. The Center will set up a work tolerance program to measure the patient to the selected job and, if possible, with carefully graded reconditioning, try to attain for the patient the strength and range necessary for the specific job. This will be a joint effort by the physical therapists, occupational therapists and gymnasium personnel. The occupational therapy plans to study and break down a few selected basic skills of some local industries and introduce them into the workshop, thus attaining closer correlation between occupational therapy and prevocational work. The vocational counsellor and the psychologist can use the occupational therapy department to help evaluate the skills, interests and aptitudes of the patient.

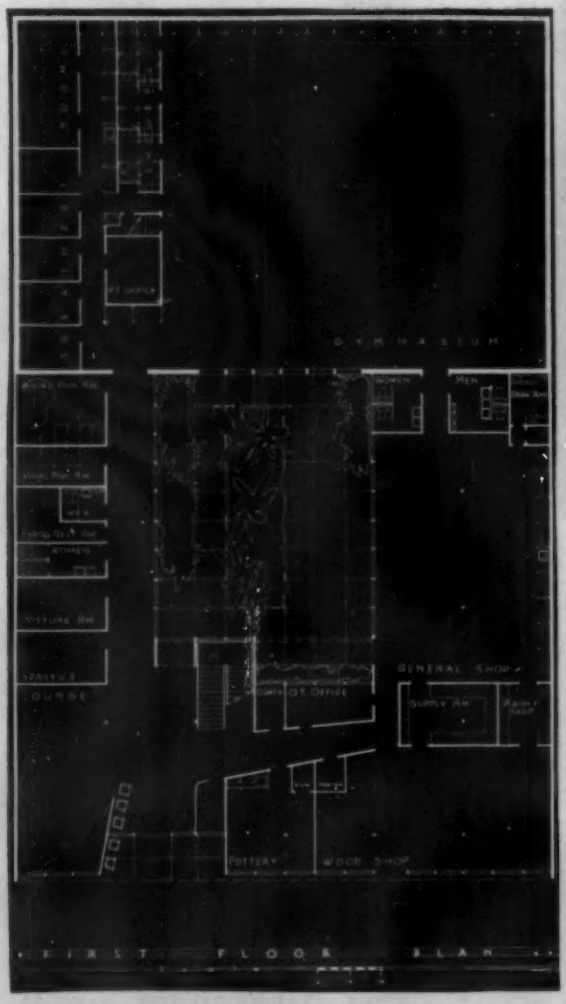
Research on muscle analyses of occupational therapy procedures, that is, craft analyses, is on the planned program. The application of occupational therapy in cerebral palsy, poliomyelitis and other children's disabilities is anticipated. These are fields where the physical therapist and occupational therapist can make a contribution by working together. The daily living skills program so admirably worked out by the Institute for the Crippled and Disabled in New York will be introduced to our community.

The home-bound program will be actively affiliated with the San Francisco Visiting Nurse Association and will offer both physical therapy and occupational therapy to the home-bound.

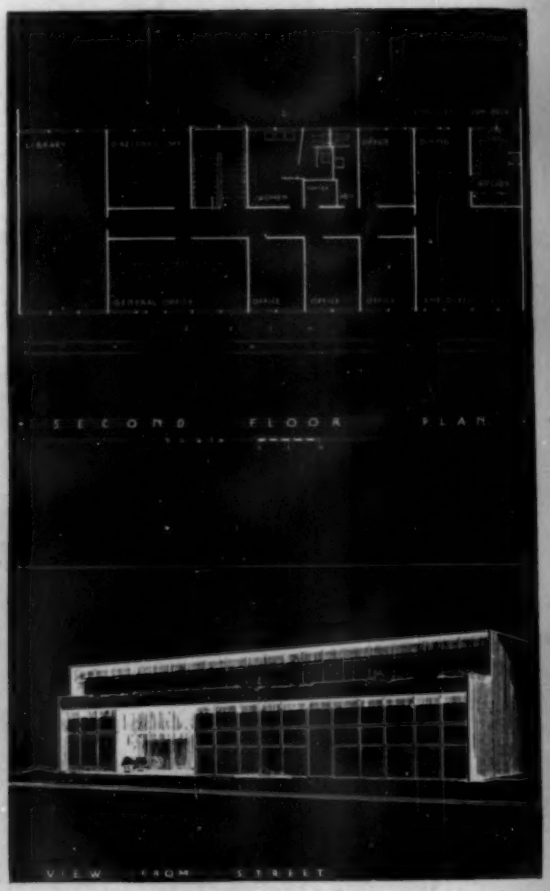
The Center will offer its facilities for the clinical practice of the area schools of physical therapy, occupational therapy and medical social workers. Qualified clinical instructors will supervise the students. Professional schools as approved by the American Medical Association require a qualified worker to supervise students' clinical practice. The qualified supervisor with a full patient load and no time or special aptitude for student supervision is very often a harassed

individual and the student is entitled to a better opportunity to get real counsel and clinical instruction. The clinical instructor also will make possible supervision of students in home care, a field now neglected. One physical therapy school and one occupational therapy school in the area offer graduate work. The Center will offer them opportunity for research.

A medical advisory committee, a professional schools committee, an insurance committee and the community service organizations committee will act as special advisory groups to the Board of Directors and the administrator.



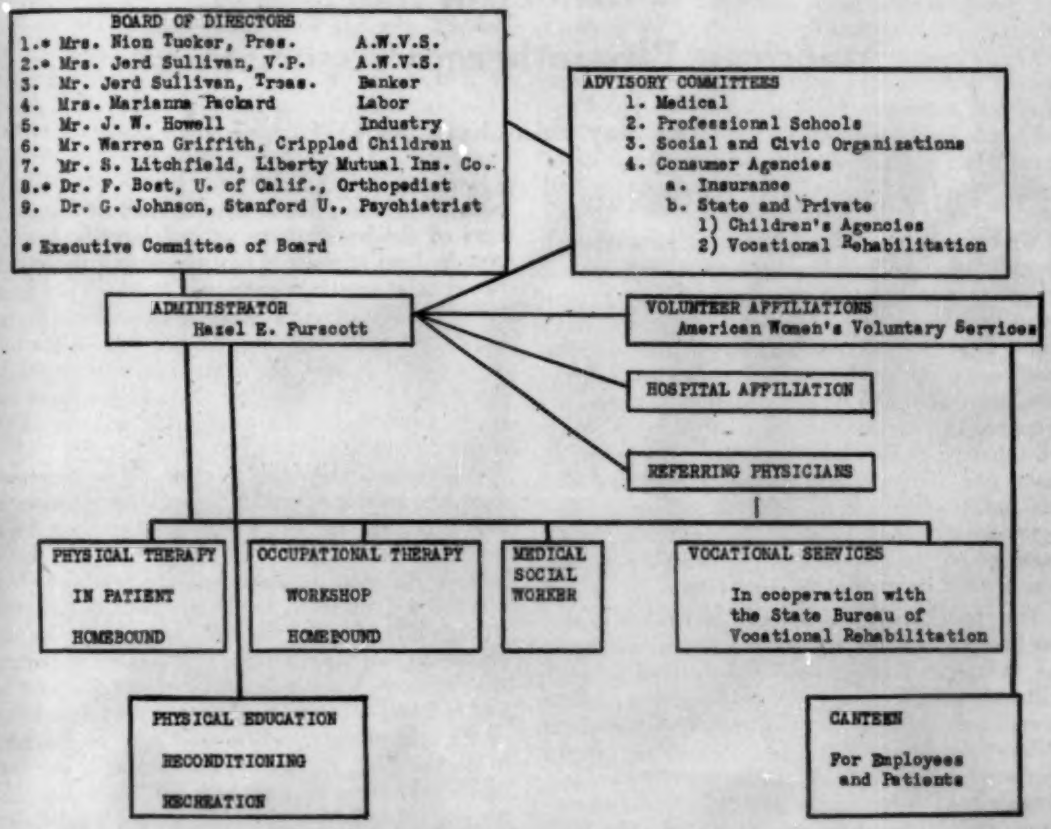
The patient source will be the physicians of the community, who will directly prescribe and direct the program of the patient under their care. In order to facilitate supervision by the physician in charge of the individual patient the Center intends by use of a medical secretary to make the physicians' chart entries and the therapists' progress notes in triplicate of which one will be kept by the Center, one will be sent to the physician for his files and one will be sent to the agency responsible for the case. We feel that this system will keep the physician in constant touch with the progress of his patient. The physicians' visits to his patients in the center will be arranged so that he will save time by seeing them under treatment. It is planned to have all of the patients of an individual physician scheduled at a specific time, ready for examination and discussion of progress with the therapists treating that patient at that time plus the secretarial set-up as mentioned above.



The California Crippled Children's Bureau and the California Vocational Rehabilitation Bureau have been in constant touch with the development of this program and their cooperation and use of the Center is assured.

Provision is made for a library and meeting

REHABILITATION CENTER OF SAN FRANCISCO, INC.
ORGANIZATION CHART



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rooms for the various allied professional groups of the area to create a community center of all local agencies concerned with rehabilitation.

Working together on the innumerable problems that present themselves the Board of Directors, the advisory committees and the staff of the Center hope to establish an agency which will meet a community need. We are well aware of omissions in our present plans. Our program is limited in scope and facility by the funds available but our plans allow for expansion in both building and program. Our ultimate objective shall be realized only by virtue of experience.

The Rehabilitation Center of San Francisco, Inc., thus hopes to make its contribution to the community of San Francisco and to the rehabilitation of the disabled and handicapped.

CHANGE OF ADDRESS

All changes of address must be sent directly to the office of THE PHYSIOTHERAPY REVIEW, 4741 N. Paulina Street, Chicago 40, Illinois, by the 20th of the month prior to the publication date, if the next issue is to be received. Both the old and new address must be given. Since the magazine goes out as second class mail, copies are not forwarded.

A History of the American Physiotherapy Association

Ida May Hazenhyer, M.A.

Part III: Coming of Age, 1931-1938

We have watched the Association pass through its childhood and adolescence; we have seen it grope its way through the maze of new experiences and new impressions which confront every child; and we have observed how it continued to reach out, even as does a girl or boy, to acquire new knowledge and new experience. Now we are prepared to examine the years of the youth period, those years in which an individual begins to make use of the education he has gained and sets out to establish himself as an adult. The Association was still young, but with the enthusiasm of youth it was marching with determination toward its goal of full maturity.

The constitution and by-laws of 1934 provided the background for a stronger organization: in the executive committee, in the standing committees, in the increase of dues from five dollars to eight dollars for regular members and four dollars for junior members. According to the previous constitution the executive committee consisted of the officers and two members-at-large, and the secretary was appointed. The 1934 constitution replaced the two members-at-large by six directors, each to serve a term of six years. The elections were so arranged that two new directors came into office at each election, which was every other year on the even calendar year. The secretary was now elected instead of appointed.

After the 1937 amendment to the by-laws only one ticket was presented by the nominating committee. Since the nominees had to be approached before the ticket was presented, and their consent obtained, the routine of making up two tickets appeared no longer expedient. And there was still the opportunity to nominate another slate at the time of election should any members be dissatisfied with the choice of the committee.

The new executive committee plan furnished to the Association a ruling board which was never entirely inexperienced because there were always four directors who were familiar with the work and the policies. To be sure, not all of the members of the board were in one locality but the new by-laws stipulated that the board must hold two regular meetings each year at which six members must be present. Thus at least one director must attend the meetings, in addition to the officers. The business of other meetings could be conducted by four members, and the business was to be ratified by the committee at one of its regular meetings.

With the additional revenue from increased dues, the treasury could now pay the expenses of one or two members of the committee when it was necessary to travel to a meeting. Also due to the increased funds, the Association was able to hire a secretary, in 1934, to do much of the routine work which heretofore had been done by the officers in their spare time. This was an important step upward, for the business of the Association had become so extensive that the spare time hours of the committee members were not long enough to do the work efficiently, and burning the candles at both ends was bad for all concerned. Among other duties, the paid secretary took over the work of the bureau of appointments, and the registration fee was discontinued.

During this period the professional publicity of the Association was considerably promoted: through the efforts of the new publicity committee, through the chapters, and through the general activities of the Association. As early as 1932 an invitation came from the American Medical Association to assist in a demonstration of the use of physical therapy in the treatment of arthritis. The American Hospital Association requested an exhibit at its annual meeting. At the 1935 session of the A.M.A. the Association was granted a booth in the scientific exhibit, for which an exhibit was prepared on "Modern Technics in the Exercise Treatment of Faulty Posture."

Exhibits were becoming an important feature of the Association's own annual meetings, and often they were requested for meetings of other organizations. One of the outstanding exhibits was one prepared by the Association and the Visiting Nurse Association of Chicago on "Improvised Home Apparatus for the Aftercare of Polio-

Physical Therapist, Jahn School for Crippled Children, Chicago, Illinois.

myelitis." This was shown at the 1937 session of the A.M.A. and at the annual meeting of the American Congress of Physical Therapy. The latter awarded a certificate of honorable mention for the exhibit. It was one of the attractions of the A.M.A. scientific exhibits and many favorable comments were made by physicians and health officers and others.

Likewise during this period the Association was asked to send representatives to other organizations to serve on their advisory boards. In 1936 a member was appointed to serve in this capacity on the Advisory Committee on Services for Crippled Children, Children's Bureau, U.S. Department of Labor. An outline of educational qualifications and functions of physical therapists to be employed in state programs was requested of this representative. She, together with a small committee appointed by the executive committee of the Association, drew up and presented this to the Crippled Children's Division of the Children's Bureau. One qualification was eligibility for membership in the American Physiotherapy Association. Thereafter, a member has continued to serve on this Advisory Committee.

Other organizations on whose boards representatives of the Association served were: The Council on Orthopedic Nursing of the National Organization of Public Health Nursing, The Crippled Child Magazine of the International Society for Crippled Children, The American Registery of Physical Therapy Technicians. Even from faraway Guatemala came an invitation for a member to speak on a physical therapy program. However, because of complications, this invitation had to be rejected.

The annual meetings of the Association were as stimulating as they had always been, but now they were adding a note of professional eminence. The programs were more elaborately planned and more scientifically conducted. There were panel discussions in which members as well as physicians and other scientists participated. The papers read bore the stamp of assurance, on the part of the lecturers, that the audience was capable of assimilating the presentation. Now it was not always necessary for the conventions to be held at the time and place of the American Medical Association sessions in order to attract attendance and obtain speakers. If the Association found it ad-

Figure 1. Exhibit. Improvised Home Apparatus for the Aftercare of Poliomyelitis. From "The Physiotherapy Review," Vol. 17, No. 4.

visable, for whatsoever reason, to hold an independent meeting, lecturers were available and attendance was good because members would find sufficient educational material to compensate for their effort and expense.

In each of the first two parts of this history a section was devoted to the discussion of the name of the Association; in this part there was not enough substantial material to make a section. But alas, Name was not dead. The incorporation of the Association and the copyright of the insignia did settle the name of the Association, but there was still dissatisfaction among medical groups because of the title of the individuals. The physicians felt that "physical therapist" should be a distinguishing term reserved for those members of the medical profession who were specializing in physical therapy. Therefore, the members of the American Physiotherapy Association assumed the title of "physical therapy technicians." In official quarters of the Association the new term was accepted, it appeared in the REVIEW and was used in public meetings, but there were many members who still resented the new term. However, even most of the recalcitrant ones finally muttered, grudgingly: "So we're technicians. So what!" There now remained only the name of the Association which, because of incorporation, could not carry the term of technician.

Membership

As stated before in this history, there had always been some objections to the Association's severe regulations in considering applications for membership. There was in the by-laws the "equivalent to the requirements" section under which applicants with irregular training could be admitted by the executive committee, but even this allowance was not sufficient to admit some who desired to become members. Therefore, the 1934 by-laws included the provision of admittance by examination.

The first examination was offered in 1934. The questions were compiled by the committee on education which received suggestions from the executive committee and from the approved schools, and the examinations were given in state localities where a competent, authorized member of the Association could give the practical tests. Although these examinations were offered for the benefit of those who otherwise could not meet all the requirements for admission, the applicants had to be high school graduates and had to be graduates of recognized schools of physical education or nursing. Their irregular physical therapy training was scrutinized and passed upon. Later, after the American Medical Association had taken over the work of approving physical therapy schools, the Association placed further restrictions upon applicants: no applicant whose irregular training had begun after August 29, 1936 would be acceptable.

The requirements for active membership were stated more definitely in the 1934 constitution than was true of previous constitutions. The one year's experience was still required, but an acceptable school of physical therapy was defined as "a school which gives not less than three years training," and a course in physical therapy as one "of not less than nine months." In lieu of physical education or nursing, sixty college credit hours, including physics, chemistry, biology and zoology could be regarded as preliminary training. (A later revision stipulated that twenty-six of the sixty hours must be in the mentioned sciences.)

Yet in spite of all these constitutional means of admission there were some members who still maintained that physical therapists with adequate experience, especially army experience, should be accepted without examination. At the Boston convention in 1938 there was a heated debate on the question. The allegation of the supporters of the requirements was, as before, that the Association must keep its standards above reproach if it was to preserve the place it had built for itself. Those who might have joined the Association in its early years, and did not, had miscalculated the importance of doing so. Many charter members, many who had been the instigators and promoters of the Association, could not meet the educational standards of the time of the Boston discussion because in the early years there were no such educational advantages as later members were privileged to enjoy. Those first members were not graduates of "approved schools," yet it was they who realized most poignantly the value of approved schools, and it was they who wrote into the 1927 and 1934 constitutions the requirements which were debated at Boston. Nevertheless, the time for admitting irregularly trained individuals, even though they had served in the First World War, had passed. Now the irregularly trained must take the examinations.

As a matter of fact, at this same convention the suggestion was made by the committee on education that there should be serious consideration of discontinuing even the examinations which had been offered during the past four years. "Though we are placing our stamp of approval on certain training courses and eliminating from the approved list schools which do not meet the educa-

tional standards we have set, are we not possibly encouraging the establishment of more unapproved schools by providing this method of membership admission?"

Because there was a possibility of discrepancy or misunderstanding or variance in accepting members through chapters, the 1936 amendment of the by-laws required that all applications should be considered by the National committee.

The 1934 constitution contained yet another new ruling: "Members of the American Physiotherapy Association shall not advertise." Those employed in institutions and physicians' offices had no occasion to advertise, but since some members maintained private offices and since a few, a very few, members of the medical profession objected to this practice, the Association forestalled possible complications by stating its position in the laws.

The depression had its effect upon memberships, as it had upon most walks of life, yet in one year of this period there were only thirty-eight fewer members than in the preceding year. This decrease was due to unemployment, and perhaps a few members flounced themselves out of the Association because of the raise in dues. However, recognizing the unusual state of economic conditions, the Association proclaimed a moratorium on dues for those who were unemployed and granted an extension of time with the understanding that such members would not receive the REVIEW.

Yet in spite of the depression and the raise in dues, the membership was slowly but steadily increasing. In 1932 there were 774 members and in 1938 there were 956. Nor was the Association relaxing its vigilance merely to increase numbers. During the last year of this part of the history 141 new applications were received but only seventy-nine were accepted.

The Association's policy regarding noncitizens was a professional one: noncitizens could become members if their training and standards and ethics met the requirements of the Association.

Chapters

The integration of the chapters and the National organization now became complete. In the beginning the chapters had been more or less independent. They were a part of the Association yet each operated as an entity: there was the National organization and there were the chapters. Now, the chapters were the Association and the Association was the chapters. The aggregate was analogous to a big family with its various offspring, and the family was governed by the parent. But as each child in a family has an individuality, so each chapter presented its own characteristics, and this aggregation of group personalities made a stronger and richer central organization.

"We who have this professional responsibility must contribute to the American Physiotherapy Association an unbiased interest and learn to build for the whole rather than for the small group or the still smaller Self," said one president.

The chapters were one of the Association's best publicity agents, for by their closer relations with organizations and physicians in their own cities and states they made themselves and the entire Association known by their deeds and by their professional attitudes. The annual reports in the REVIEW indicate the range of activities. Many chapters arranged lecture series and clinics for their members, besides the regular meetings for which they had talks on pertinent subjects. Some were invited to attend lectures given by medical societies, and often they participated in clinics and demonstrations. Others were asked to cooperate with city or county or state organizations in making surveys. The Chicago and Wisconsin chapters conducted sections on physical therapy at the annual Tri-State meetings of the Hospital Association of Illinois and Wisconsin and Indiana.

During the depression the Association conceived the plan of holding sectional meetings for the chapters in certain districts in order to eliminate long journeys across the country. One meeting was to be in the east, one in the middlewest, one in the west. The east started to make arrangements but because of the annual meeting in Chicago in 1933, and because of other complications, the sectional meeting was cancelled. The western chapters did hold the sectional meeting that year. However, the Association did not continue the policy of sectional meetings; it decided to concentrate on the annual conventions.

Another contribution the chapters made to the Association as a whole was in the material gathered for the REVIEW. Whenever a chapter had an interesting lecture the paper was submitted for publication, thus not only assisting the REVIEW in its work but sharing the information as well. Chapters often subscribed to the REVIEW for medical societies and hospitals and libraries.

The chapters admitted during this period were: Colorado, Santa Barbara, Western New York, Central New York, Western Michigan. The Oregon chapter dropped out for a time, leaving twenty chapters in all.

Legislation

The legislative situation continued to be that of the watch dog sitting at the front door, or back, ready to pounce upon suspicious prowlers but shrewdly refraining from "sticking his neck out" to look for trouble. However, we relate the following incidents to show that there were problems still confronting the Association.

Most states did not require a license of Association members because the question of diagnosing and prescribing was not involved, yet many chapters ran into snags in their own localities. In Illinois a bill which had to do with chiropodists was introduced, and this bill if passed would have curtailed physical therapy on the feet unless the physical therapists were graduates of a school of chiropody.

The District of Columbia and New York were frequently centers of turbulency. During a routine inspection by the police department of the District of Columbia, the chapter became alarmed over the threat of licensing physical therapists, but after the chapter presented the by-laws and code of ethics of the Association, no action was taken.

The state of California averted a real scandal. A man who operated a school of massage endeavored to force a bill which would exclude any use of massage unless the operator had passed certain examinations, which virtually meant attending his school and paying his fee. The bill included a section which allowed those who held the license to prescribe narcotics. Upon investigation it was found that the bill was backed by prostitutes advertising in the name of massage establishments. Fortunately, the California Medical Association and the State Board of Medical License assisted the local chapters in having the bill thrown out of committee before it reached the Assembly.

The Association had decided, some time ago, that legislation for physical therapists was not desirable because of the political entanglements, because the time was not ripe for action, and because the Association was a small group. Yet in a wish to escape the possibilities of adverse involvement, it considered, vaguely, some sort of registration comparable to that of nurses. Although this registration did not materialize, the Association felt that it would be wise to have a model law drawn up which would serve as a guide to chapters whenever adverse legislation was proposed in any state. The Association sought legal as well as medical advice in drawing up a model law. Chapters were advised to be on the alert and to consult with their state medical groups if any legislation affecting physical therapy were introduced.

Education and Standards

The American Physiotherapy Association had been fully aware of its limitations in undertaking the task of raising the standards of its profession by presenting its curriculum to schools and placing its stamp of approval, or withholding it. As stated before, the Association took this burden upon itself only because no other organization had done so, and because it realized the great importance of good schools. "It is noticeable," said an editorial in the REVIEW, "that the communities where the recognized physiotherapy schools are located, have the strongest chapters and the most backing by the medical profession. This is to be expected and it does indicate our sources for future strength."

However, many physicians specializing in physical therapy, and some of the approved schools, raised an objection to the Association's assuming the position of an accrediting agency. Such a role, they maintained, should be vested in a more authoritative body. There were physicians who approved the Association's policies and commended it for insisting upon elevated requirements for admission into its ranks. One well-know physician remarked that the medical profession should not set standards for the Association any lower than it set for itself. The Association's early awareness of the importance of physical therapy, at a time when the profession was in its initial stage, speaks for the Association's acumen.

Indeed, the Association was so anxious to maintain high educational standards in order to better serve the physicians and the patients, and so cognizant of its inadequacy to struggle with the complications, that it determined, of its own volition, to appeal to the American Medical Association to take over the school situation. In 1933 a resolution was presented to the House of Delegates of the A.M.A.:

"Whereas, There is a recognized demand for qualified professionally trained physical therapy technicians in the hospitals of this country, and

"Whereas, The work of these technicians is under the direction of members of the medical profession, and

"Whereas, The medical profession and the American Physiotherapy Association recognize the vital importance of establishing minimum standards of training and the inspection of training schools in physical therapy by a qualified and authoritative organization, therefore be it

"Resolved, That the entire subject be left to the

Board of Trustees of the American Medical Association, with the request that it be given careful study and consideration, and, if practical and feasible, some plan for the establishment of standards, rating and inspection of training schools in physical therapy be effected, providing that the expense of such inspection be borne by the school requesting the same."

Following the above action by the A.M.A., thirty-five schools were inspected by the Council on Medical Education and Hospitals. The Council then proceeded to draw up the "Essentials of an Acceptable School for Physical Therapy Technicians," with the cooperation of the American Physiotherapy Association and other interested groups. (This was published in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, August 29, 1936, and was reprinted in THE PHYSIOTHERAPY REVIEW, September-October 1936.) In the same article, thirteen schools approved by the Council were listed, and a minimum curriculum slightly changed from the original A.P.A. curriculum was printed.

This accomplishment evoked as deep a sigh in the Association as had the consummation of the name question when the name was incorporated. Those were trying times for the Association, eager as it was to serve the medical profession and adhere to ethics, yet righteously resolved to maintain its own identity.

However, with the transfer of responsibilities regarding active guidance and approval of schools, the Association did not relax its interest in education and standards in general. It urged individual members to strictly obey the code of ethics, encouraged further study, accepted assignments from other sources to serve in advisory capacities, was alert to danger signals, and supported any ideas or measures which would uphold and advance those principles for which the Association stood and for which it existed.

The Physiotherapy Review

The significance of the REVIEW had been gathering impetus from the beginning, until now it enjoyed the distinction of being one of the best journals of its kind in the country—which really meant the world. Undoubtedly one of its chief attractions was the great variety of subject matter which covered the gamut of physical therapy as a physical therapist uses it, and even reached beyond this esoteric range to enlarge the readers' total knowledge. Many of the subjects were specialized: for instance, instead of a discussion of general physical therapy for poliomyelitis patients, there were articles on specific phases such as treatment of shoulder muscles in poliomyelitis cases. Some articles were highly erudite, challenging the readers' mental powers; others were simple and practical; both supplied a need and offered satisfaction.

A physician who had just become acquainted with the REVIEW said: "I obtained the last two volumes from the medical library expecting to glance through them, and soon became absorbed in the numerous articles of great interest, and was hardly satisfied until I had read most of them. From these volumes I found that there is much for me to learn about physical therapy, and accordingly I immediately wrote to the business office entering my subscription for this journal. I found articles of great merit, very well written, and giving important information which cannot be found elsewhere, and which is essential for proper supervision of orthopedic treatment."

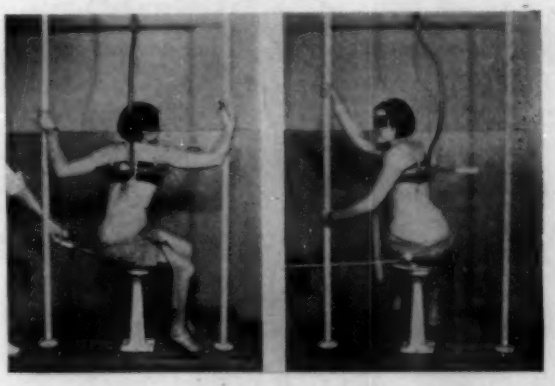

Figure 2. De-rotation chair. From "The Physiotherapy Review," Vol 16, No. 1.

Likewise, the format of the journal was one to attract attention with its dignified gray jacket, its name in bold black lettering, the official insignia which first appeared on the March-April 1931 issue, the table of contents conveniently printed on the cover. Inside, the printing, the titles, the arrangement of articles and editorials and announcements were improved from time to time until finally the REVIEW presented a thoroughly professional appearance which was pleasing to the eye.

The size had been changed three times: from the very small journal to the large one in 1929, and from that to the present seven-and-a-half by ten-and-a-half in 1938. The latter change was made to conform with the measurements of other medical journals so that institutions receiving the REVIEW could conveniently stack the issues on library shelves or put them into bound volumes.

Several changes were made in the number of representatives on the editorial staff, the first in 1933 to provide for an editor and assistant, three associates, a business manager and assistant. In 1935 the assistant manager was discontinued and a part-time secretary was employed. Now for the first time in the REVIEW's history, something of a permanent address was established at 303 East Chicago Avenue, Chicago. Heretofore the editor had been in one place and the business manager in another. It was confusing to members and subscribers and contributors, and there was a duplication of labor on the part of the staff.

While this writer was editor, she became more than confused upon one occasion: she sent a big steel filing case, destined to reach the business

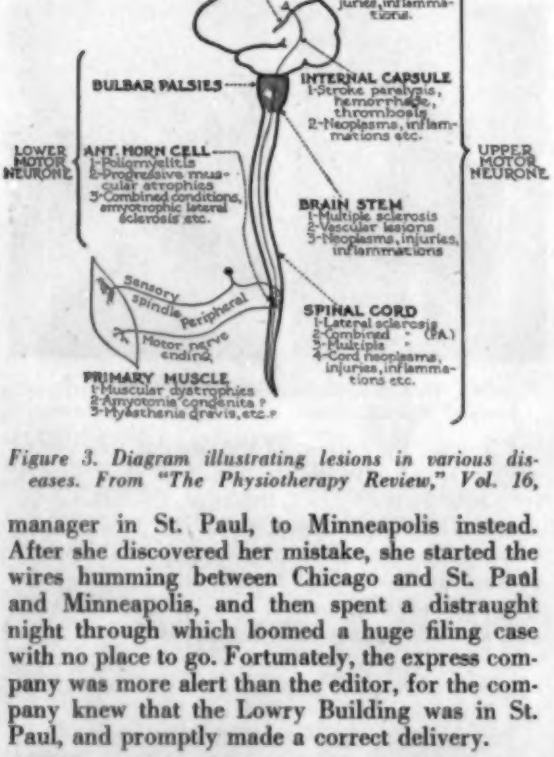

Figure 3. Diagram illustrating lesions in various diseases. From "The Physiotherapy Review," Vol. 16,

manager in St. Paul, to Minneapolis instead. After she discovered her mistake, she started the wires humming between Chicago and St. Paul and Minneapolis, and then spent a distraught night through which loomed a huge filing case with no place to go. Fortunately, the express company was more alert than the editor, for the company knew that the Lowry Building was in St. Paul, and promptly made a correct delivery.

With a single address and a part-time secretary, the editor and business manager had visions of an easier time—figuratively speaking, visions of sitting on a cushioned chair with feet on the desk while directing the work. But, alas, that was only an hallucination—one of those pleasant dreams which comes to an end at the break of desolate dawn. The two staff members, inexperienced as big executives, discovered that even some of the routine work could not be entrusted to one unfamiliar with the exacting duties of publishing a professional journal. So, the midnight candles continued to burn.

However, in 1936 a full-time secretary was employed and the situation became much brighter. Now at least a good portion of the candles could be snuffed out. Then in 1938, the REVIEW really came of age: an office, a real office with ante room and telephone and a number in the directory, was established at 737 North Michigan Avenue, Chicago. This was a day to talk about. During the previous eighteen years, it had been a case of here an editor and there an editor, and never a place to call home. Even with a paid secretary for the executive committee, the Association had never had a permanent address because the committee was changed every two years, which meant a shift in location each time. Now the entire Association felt that it had "headquarters" even though the business of the executive committee was not transacted there. Members travelling to or through Chicago stopped for visits in the office, and always there was this one permanent address for the Association.

The office became headquarters for some of the Association's affairs as well: for instance, the exhibits which heretofore had been kept in this member's closet and that member's basement were assembled in the office. The REVIEW's files could now be kept more accurately and permanently. This was a great advantage, as this writer discovered when rummaging for historical items only to find, quite often, that there was no record of the point in question. (This is also true of the National files of early years.) In 1934 a complete file of REVIEWS was put into bound volumes so that there would never be any missing issues. (The editor had some difficulty in locating the second issue, but finally a generous member offered her copy.)

In spite of the depression with which this part of the history begins, there was a forty per cent increase in subscriptions to nonmembers in 1931-1932, making a total of 140, including those of eight foreign countries. In 1938 there were 268 subscriptions with seventeen countries on the list. The total circulation was 1270. The REVIEW was now listed in the Quarterly Cumulative Index Medicus of the American Medical Association. In one year there were 11,600 reprints of articles, usually requested by the writers, and in the same year 651 complimentary copies of the REVIEW were sent to contributors and others.

The custom of holding chapters responsible for

part of the material in certain issues was discontinued in 1936. The last number to appear with a chapter's name on the cover was that of May-June 1936. This change was made primarily because chapters would retain papers for their own issues instead of submitting them immediately, thus depriving the readers of pertinent subjects for several months before publication. Then, too, the REVIEW was becoming better known and often fine, unsolicited papers were submitted directly to the editor. The editors had less occasion to chew their finger nails as they did in days of yore.

Still, editing the REVIEW was not all sunshine and roses; some days the skies were very dark and there were thorns among the roses. Occasionally when a contributor requested the galley proof of his article he decided to make some changes: perhaps a sentence as he had written it did not look good in print; perhaps he had changed his mind about some point. Then the printer would be indignant because he had to reset type, or he would add a charge on the bill. "Why can't those physicians make up their minds?" he would storm. Again, the editors, just ordinary folk susceptible to errors, might overlook one of those blunders—until they saw it staring up from the finished page of the REVIEW. There on the page, for all the world to see, it would stand forth like a boil on the nose, and the editor would wonder how it was that she had not seen it before. Perhaps there would be a letter. — Queer how one weed will draw attention while all the blossoms in the garden may pass unnoticed.

During the five years of the second part of this history there were twenty-five issues of the REVIEW, and during the eight years of this third part there were forty-eight; therefore, the following figures are not quite as startling as would appear without considering the number of issues. Nevertheless, there was a great increase in the number of papers written by members, in the number of articles illustrated, in the total number of cuts. In the second period, forty articles were written by members; in the third period there were one hundred fourteen. Eleven articles were illustrated in the second period with a total of seventy-one cuts; in the third period there were seventy-four articles illustrated with a total of four hundred nineteen cuts. The papers by members varied from a delineation of homemade apparatus, to a description of an unique technic, to a treatise involving research.

The following tabulation of the more popular subjects demonstrates the trend of physical therapy during this period:

Arthritis	15	Massage	4
Back conditions	34	Poliomyelitis	21
Cerebral palsy	30	Posture	19
Electrotherapy	24	Psychiatry	31
Foot conditions	13	Ultraviolet	4
Fever therapy	11	Crippled Children— Camps, Schools, Welfare, Etc.	40
Fractures	23		
Hydrotherapy	16		

Editor's Note: This is the third of a series of articles by Miss Hazenhyer. The fourth, and last, article will appear in the July-August issue.

Graduation Greetings

Herman Chor, M.D.

The occasion of graduation is always a significant one. First of all it implies SUCCESS—and each one of you should be justly proud of the certificate now in your possession. It bears witness to the fact that you have worked hard and faithfully and as a reward you have earned the recognition of belonging to the profession of physical therapists. I know all here join me in

700 North Michigan Avenue, Chicago 11, Illinois.
Assistant Professor, Department of Nervous and Mental Diseases, Northwestern University Medical School, Chicago, Illinois.
Excerpts from address delivered before the graduating class of physical therapists, Northwestern University Medical School, Chicago, Illinois, March 21, 1946.

extending hearty congratulations.

Graduation brings "finis" (the end) to long months of study and practice— but this is the end of but one chapter. A new one, and indeed a much greater one, for each of you is just beginning. I wish to make a few remarks apropos this new venture awaiting you.

That these are exciting and interesting times, no one can deny. Our human race has been behaving rather unruly during the past decade. The tense years which preceded the war and the horrible nightmare which started for us on December 7, 1941, have given way to our present postwar period of reconstruction. There are numerous problems—both material and spiritual—which confront all of us. You young graduates are welcomed with open arms, because the world sorely needs the fresh vigor, high ideals and challenging hope of new recruits. There are great opportunities awaiting all of you, especially so because you belong to the select few who serve in the art of healing. As adjunct members of the medical profession you are announcing to the world that you are ready to lend a helping hand, and a tired, aching, disillusioned humanity needs you.

In recent months I have had occasion to take part in the work at Hines Veterans Hospital. On the neurologic wards there are hundreds of invalided veterans of World War II, paralyzed in one or more limbs. A special ward of 300 or more paraplegic cases due to spinal cord injury is now occupying our special attention. It is our desire to give these men the very best in modern treatment and care, and physical therapy under the supervision of qualified personnel is a very important part of our treatment programme. This is but one example of many similar projects now underway throughout this country. Graduate physical therapists with the fine training given by recognized schools are definitely needed.

As graduates of Northwestern University you possess the knowledge and technical skill which will permit you to take your place among the best in our profession. From a practical personal standpoint each one of you can now go out and make a living. That is one of the chief reasons you undertook the study of physical therapy—to learn a trade—to equip yourself so that you could make a living, be self-supporting and independent. Today in this fast-moving competitive world of ours, making a living is so important there is a danger that one may overlook a phase of human endeavor which is just as important—perhaps even more so—namely, making a *life*.

Do not sacrifice making a life in your zeal for, or indeed in your need for, making a living. When you decided to take up the practice of physical therapy as a career you were motivated, either consciously or unconsciously, by a noble desire—the desire to *serve*. Something within you, let us call it your character, sought expression in a work of service whereby you could help those handicapped by disease or injury. You have assumed that you possess those traits of character and personality by which you can stand shoulder to shoulder with the physician and with the nurse, ready to undertake your specific role in the noble art and practice of healing the sick or the maimed. With this privilege, however, are also certain responsibilities. Are you willing and ready to accept those responsibilities which such a role implies? Will you have the strength and the kindness, the tolerance and the understanding, the compassion and the firmness with which to face the daily problems which will be yours?

During your courses at Northwestern you have heard of the importance of understanding your patient. You are acquainted with the numerous and complex human problems which are in the background of every illness. You know the importance of recognizing what the illness means to the patient and why he reacts to it the way he does.

You have found out that while you were learning to understand your patient you were also learning to better understand yourself and your fellow-workers. Soon you will be called upon to utilize this information in dealing with the real problems which will confront you. Will you be able to put into practice what you have learned from textbooks and lectures? Will you remember, at all times, that yours is a work of service to your fellowman? Will you be able to suppress selfish emotions and preserve intelligent objectivity? You will meet many situations which will try your patience and call for tact and kindness. Will you have the courage to carry on in your duties while those about you are "losing their heads and blaming it on you"? If you do, your rewards will be sweet—the satisfaction of work well done, of service to others.

Yes, you will be tested again and again, in hospital, clinic and home, wherever your services are needed. Share your burdens with your fellow-physical therapists, and share your successes and joys as well. Cultivate a feeling of comradeship and loyalty within your group. It's a fine group—the American Physiotherapy Association.

Through the leadership of those like Doctor Coulter, Miss Beard, Miss Elson, Miss Worthingham and many others, physical medicine has come into the recognition it deserves. You can play an important role in preserving and in carrying forward the fine standards established for physical therapy by these associates of yours. Keep up your interest in your journals—take part in research projects—keep in touch with your alumni group and your alma mater.

Foster the friendships you have made during your months here at Northwestern, and face the future with good spirit. Keep with you the comfort and inspiration of good books and good music—cultivate a feeling of well-being and self-confidence, as you serve in modesty and humility.

If you heed these things, you will achieve what all mortals seek—the joy of living—those durable satisfactions of life that bring happiness and contentment. Farewell and good luck!

The Veteran Rehabilitation

Howard A. Rusk, M.D.

As an outgrowth of the barrage of criticism hurled at the medical service of the Veterans Administration last year, a separate and independent Department of Medicine and Surgery, similar to those of the armed services, was established by congressional action this past January. One of the features of the legislation which VA officials deemed essential was the authority to procure professional medical personnel directly and to increase salaries of such personnel in order that qualified persons would be attracted to the service. The wisdom of this legislation has been demonstrated in the past few months by the high quality of medical personnel which the VA is now attracting.

This authority for direct recruitment which has elevated the professional stature of the service, however, has been limited to physicians, nurses and dentists. All other personnel are still employed through Civil Service, and considerable controversy has arisen over salary increases and professional status in certain categories. This situation is particularly acute in the case of physical therapists where serious personnel deficiencies prevent the VA from giving the high type medical care promised.

Physical therapy has been an established profession since 1921 when the American Physiotherapy Association was organized. The Association maintained the educational standards and requirements of the profession until 1934 when it requested the American Medical Association to assume the responsibility for such standards.

A qualified physical therapist is one who has completed certain basic college science courses or other prescribed work, including graduation from approved schools in either physical education or nursing, and who has then followed this training by a minimum of one academic year or its equivalent in a school of physical therapy whose standards are approved by the American Medical Association.

Although the American Medical Association and the American Hospital Association insist that physical therapists employed in civilian hospitals be qualified graduates from approved schools, the great percentage of those now employed in VA hospitals and clinics are not so qualified. The VA currently needs 890 physical therapists to meet their ever-increasing loads, but there are actually only 322 on duty. Of these only 117 are professionally qualified. VA rehabilitation experts have estimated that nearly 1400 therapists will be needed by mid-summer of next year.

The shortage of qualified physical therapists, as has been previously pointed out in this column, is acute throughout the country. The national total numbers but 3,500. This will be increased

Reprinted from "The New York Times," April 12, 1946.

by 600 students who will graduate in 1946. During the past few months approximately 800 physical therapists have been released from the Army. Of this number, in spite of personal letters written to each of them by the VA, only 19 have been obtained.

In addition to these personal letters written to therapists being released by the Army, the VA has written letters and posted notices in all Army hospitals, has contacted all approved physical therapy schools, and has carried notices of their shortages in all of the professional magazines. The ineffectiveness of this intensive recruiting drive is shown by the fact that in the past fifteen months the VA has been able to employ less than 50 qualified therapists.

The fundamental reason behind VA's inability to attract qualified therapists is the low wage scale and the lack of professional recognition by Civil Service. With the exception of but three individual positions in the entire VA medical service, Civil Service regulations provide that therapists in the VA carry sub-professional ratings from SP-5, paying $2100 a year, to SP-8, paying $2980.

This wage scale is considerably less than physical therapists were receiving in the Army and accounts for their lack of interest in VA positions. Therapists in the Army were given direct commission in the rank of second lieutenant for which the base pay is $1800. In addition to the base pay, however, second lieutenant therapists received $792 per year in rental and subsistence allowances if without dependents, and $1260 per year with dependents. Added to this were the advantages of free hospitalization, medical and dental care, the privileges of purchasing at post exchanges and commissaries, the opportunity to purchase government life insurance, the advantages of the GI Bill of Rights, and many other tangible benefits. When all of these are considered the discrepancy between the pay in the Army as compared to the VA is striking.

In addition to military personnel the Army employed some civilian physical therapists who were given P-2 ratings paying $2980, which is the maximum the VA can pay under present Civil Service ratings, to all but three individuals, regardless of their experience and post-graduate training.

The Veterans Administration has recommended to the Civil Service that salaries for therapists be brought in line with those received by nurses and other professional personnel with comparable training and experience and that therapists be given professional status. They have asked for professional ratings starting at $2320 and extending up to $4300 for the highest category of supervisor. These salaries are consistent with those being paid in the better civilian hospitals.

Equally as important, and in many cases even more so, is the failure of the Civil Service to grant VA therapists professional ratings. Although, as already pointed out, a large number of therapists presently employed by the VA are not graduates of approved schools, all new employees must meet this requirement. Therapists, however, are hesitant about entering the VA service where they are categorized as "sub-professional." They rightly feel that when their training is compared to nurses, dietitians, librarians and Special Services athletic directors—all of whom are classified as professional—that they too are entitled to such status.

One of the greatest problems in rehabilitation is that of motivation—encouraging and convincing the disabled that they can rehabilitate themselves. This motivation to be most effective must begin at the earliest possible moment following injury or illness and must be continuous until the patient reaches the maximum improvement possible. Much of this motivation must come from the physical therapist who, in addition to giving treatments, must teach walking with the use of crutches and artificial legs, self-application and removal of braces, and the many other activities of everyday living which many disabled men must relearn.

The rehabilitation team of the medical specialist, occupational therapist, psychologist, educator, social worker, and vocational guidance expert cannot function effectively when one integral member of the team, the physical therapist, is missing. In many VA hospitals the shortage of physical therapists is making it impossible for the VA to live up to its avowed goal of "giving to each and every veteran the best possible medical care." The only way these shortages can be erased and qualified personnel attracted in sufficient numbers is an equitable increase in salaries and the rightful recognition of the physical therapist's professional status. This must be done now if the promises made to the veteran are to be kept. With hundreds of men with severe disabilities being transferred from service hospitals to the VA, adequate personnel must be on the job when they arrive. The first few weeks are the crucial ones and the impression made and care given during that period can often make or break the disabled serviceman. This initial period may mean the difference between a life of independent productivity and one of chronic invalidism.

Hospital Service in the United States

F. H. Arestad, M.D., and M. G. Westmoreland, M.D.

Hospital reports on technical personnel employed have been tabulated by states and included in THE JOURNAL on March 27, 1937, March 28, 1942, March 27, 1943, March 25, 1944 and March 31, 1945. Totals for previous years are appended to the current table for comparison. The variations in employment of technical personnel in hospitals during the war years are

Technical Personnel in All Hospitals

	Laboratory Technicians		X-Ray Technicians		Dietitians		Physical Therapists		Pharmacists		Medical Record Librarians		Medical Stenographers		Occupational Therapists		Nurse Anesthetists	
	Full Time	Part Time	Full Time	Part Time	Full Time	Part Time	Full Time	Part Time	Full Time	Part Time	Full Time	Part Time	Full Time	Part Time	Full Time	Part Time	Full Time	Part Time
Alabama	213	24	140	29	108	8	51	4	40	3	73	13	143	13	40	3	71	12
Arizona	88	12	48	12	31	2	16	1	26	..	23	6	65	4	11	..	13	4
Arkansas	121	18	83	21	48	11	31	3	26	1	44	8	95	9	23	1	41	13
California	1,162	118	674	91	426	25	475	46	372	49	282	59	1,021	59	240	32	241	37
Colorado	175	22	119	17	78	6	41	21	45	8	55	21	186	15	26	15	36	6
Connecticut	188	17	124	12	117	..	51	9	47	5	62	9	146	23	41	8	71	10
Delaware	34	1	17	5	19	..	9	1	5	5	9	3	18	5	10	2	13	1
Dist. of Columbia	117	3	56	3	75	1	38	4	32	1	29	1	70	4	40	2	31	..
Florida	362	33	213	27	95	8	77	7	106	..	56	23	266	9	42	5	77	13
Georgia	402	25	231	27	160	9	88	9	73	6	71	21	245	10	59	6	109	17
Idaho	37	6	27	7	15	..	11	..	13	1	10	8	79	1	9	..	17	13
Illinois	879	125	478	86	380	28	251	26	231	21	250	64	550	35	213	34	328	45
Indiana	279	49	161	36	113	14	62	10	59	11	80	18	123	26	64	4	28	8
Iowa	135	34	113	37	90	12	42	10	41	7	67	22	131	16	22	4	45	33
Kansas	180	71	95	37	88	12	43	10	50	6	65	29	121	16	39	..	28	12
Kentucky	178	32	105	31	79	6	32	6	36	2	38	19	93	9	37	2	36	3
Louisiana	228	11	140	13	113	4	38	3	66	2	69	14	160	9	13	1	86	10
Maine	73	18	38	21	39	2	13	3	16	2	32	6	65	3	11	..	36	14
Maryland	220	32	106	14	119	7	61	14	61	8	68	14	219	17	64	5	54	17
Massachusetts	676	104	337	58	366	13	158	24	146	12	180	44	510	46	171	6	130	25
Michigan	462	73	292	68	250	21	128	10	123	20	127	48	348	41	93	4	205	39
Minnesota	220	69	132	64	137	15	45	15	50	12	71	36	109	21	46	5	134	56
Mississippi	173	37	91	41	70	11	17	6	29	1	30	26	119	19	28	1	80	29
Missouri	392	65	212	37	163	23	106	14	99	10	109	23	198	13	66	60	86	10
Montana	42	20	30	13	22	2	6	4	12	2	29	8	40	10	3	1	29	19
Nebraska	113	15	72	19	50	8	18	4	35	10	39	10	116	12	21	..	65	25
Nevada	16	5	11	5	4	2	1	2	4	2	3	2	5	3	..	..	1	2
New Hampshire	50	13	29	13	30	3	6	3	7	5	30	7	23	9	16	3	6	3
New Jersey	435	40	218	32	252	7	134	33	101	19	110	25	255	16	155	10	89	10
New Mexico	73	16	47	17	35	1	14	1	24	..	21	7	66	6	17	..	13	8
New York	1,750	141	878	97	1,045	32	523	81	433	45	511	91	1,346	62	570	35	309	31
North Carolina	327	44	177	47	205	14	61	4	62	6	107	26	308	21	30	4	112	32
North Dakota	42	20	25	11	20	4	6	6	6	1	17	10	22	4	2	1	32	18
Ohio	557	124	283	80	332	20	133	18	122	26	166	37	368	36	82	10	146	9
Oklahoma	175	31	122	30	87	5	50	2	46	6	80	19	153	13	22	1	47	11
Oregon	128	37	88	27	52	3	22	1	39	4	36	11	89	8	13	..	77	18
Pennsylvania	870	119	452	68	507	29	196	77	201	62	274	74	568	48	135	22	373	61
Rhode Island	79	5	41	4	35	2	19	5	23	6	23	5	76	2	23	2	7	..
South Carolina	159	30	104	24	79	9	18	5	36	4	63	12	109	13	12	..	44	11
South Dakota	51	18	40	16	24	4	15	3	13	3	31	10	48	5	6	1	27	17
Tennessee	234	52	138	37	133	17	62	5	53	9	95	20	181	27	40	5	66	24
Texas	869	110	519	85	331	22	155	16	184	14	284	54	699	33	112	15	241	53
Utah	80	12	33	11	40	6	56	2	17	7	18	7	71	3	15	..	34	5
Vermont	29	7	22	10	18	2	8	..	5	1	18	7	19	7	10	..	9	2
Virginia	379	63	189	42	174	7	106	4	65	4	102	21	250	19	79	1	110	15
Washington	239	39	187	35	150	10	91	10	79	10	80	22	118	17	54	1	125	23
West Virginia	162	20	100	13	79	8	55	21	16	2	51	11	135	9	26	1	62	9
Wisconsin	243	69	140	67	125	12	69	18	66	19	87	38	230	38	41	8	136	45
Wyoming	28	3	19	7	17	1	8	2	6	..	6	5	23	1	10	1	7	6
Totals (1945)	14,144	2,052	7,996	1,604	7,025	468	3,716	583	3,461	460	4,181	1,074	10,400	845	2,902	322	4,142	884
(1944)	14,111	2,093	8,115	1,795	6,753	695	3,220	747	3,600	583	4,248	1,262	9,625	1,311	2,256	346	3,723	1,096
(1943)	13,349	2,073	7,834	1,783	6,482	609	2,905	719	3,563	605	4,155	1,191	8,816	1,202	1,883	351	3,609	1,242
(1942)	10,961	1,835	6,303	1,604	6,077	557	2,643	772	2,698	533	3,426	1,035	6,878	1,048	1,727	283	3,274	972
(1941)	9,609	1,676	5,534	1,535	5,548	459	2,505	602	2,382	497	3,035	897	6,016	990	1,882	350	...	...
(1936)	6,705		4,708		4,331		2,382		1,901		....		....		1,809		....	

Reprinted in part from "Twenty-Fifth Annual Presentation of Hospital Data by the Council on Medical Education and Hospitals of the American Medical Association," J.A.M.A., 130:16:1073, April 20, 1946.

clearly demonstrated if the 1941 totals are used for comparison. During the war civilian and federal hospitals have experienced large increases in the number of patients admitted as demonstrated elsewhere in this issue. This is reflected in the increased employment of technical personnel to aid in establishing diagnoses, administering treatments or caring for the patients as well as keeping the necessary records. It is noteworthy that two changes occurred in hospital employment of technical personnel during 1945. There was a reduction of part time employment in all categories included in the accompanying table. Increase in full time employment was reported in those classifications in which personnel were particularly difficult to acquire during the war years. Thus the largest net increase was reported in the occupational therapist group, which represented an increase of 636 additional full time workers with only 24 fewer part time employees. Increased reliance on full time physical therapists was indicated by hospital reports this year which included 496 more full time physical therapists than last year with a reduction of 164 on a part time basis.

The remaining categories demonstrate a net reduction was reported in the current survey. Changes in the number of clinical laboratory technicians in hospitals were not significant but a real reduction of 310 x-ray technicians and 262 pharmacists was recorded. These decreases are the first to have occurred since 1941 and represent 3 per cent of the 1944 peak employment of x-ray technicians in hospitals and 6 per cent of pharmacists reported in the same year.

In the current survey a reduction of 67 full time and 188 part time medical record librarians was reported, but this might easily reflect an alteration in the classification of personnel in record departments.

Schools for Physical Therapy Technicians

The House of Delegates of the American Medical Association in 1934 requested that some plan be effected for the establishment of standards, ratings and inspections of schools for the training of physical therapy technicians. The Council on Medical Education and Hospitals assumed responsibility for this program and by 1936 had completed a survey of these schools. Certain minimum standards were formulated. These were presented to the House of Delegates of the American Medical Association and were ratified in May 1936. The first published list of 13 approved schools appeared in THE JOURNAL in August 1936.

Last year there were 32 approved schools training physical therapists. All of the Army and two of the civilian schools have discontinued their courses so that now there are 21 offering acceptable training. Furthermore the emergency courses have recently been discontinued. These courses presented all the didactic instruction before students were transferred to army units where acceptable supervised experience could be obtained. On completion of the required experience these students will be certified.

The 786 graduates in 1945 established a new record. In 1946 there will be approximately 752 graduates. This estimate includes the emergency course students referred to and 18 navy nurses who are being given approved training somewhat similar to the emergency course.

The maximum capacity of the 21 currently approved schools totals 480 students, but these same schools plan to graduate 483 therapists. A few schools are graduating more students than their reported capacity.

Six courses are designed for high school graduates who will need four years of training. Practically all schools will admit nurses and physical education majors. Three or four years of college work fulfill the entrance requirements in all but two of the approved schools for physical therapy technicians.

Tuition is free in one school while in other centers it closely parallels university fees. The average tuition is $208 and the mean is $200. In 1946 it is expected that all schools will have completed college affiliations. Physical therapy courses are presented on the collegiate level and carry semester credits in 14 schools. Nine schools issue a degree and the remainder present a certificate or diploma when the curriculum has been completed.

Reprinted from J.A.M.A., 130:16:1156, April 20, 1946.

Schools Approved for Training Physical Therapists

By Council on Medical Education and Hospitals of the American Medical Association

Name and Location of School	Medical Director	Technical Director	Entrance Requirements*	Length in Months	Classes Start	Tuition	Certificate, Degree, Diploma
Children's Hospital, Los Angeles[1]	Samuel S. Mathews.	Lily H. Graham....	a-b-c	14	Sept	$200	Diploma
College of Medical Evangelists, Los Angeles[1].....	F. B. Moor.....	A. H. Carlson.....	a-b-c	12	Sept	$225	Cert. or Degree
University of California Hospital, San Francisco[1].....	Frances Baker.....	Margery Wagner...	a-b	12	Sept	$150	Certificate
Stanford University, Stanford University, Calif.[1].....	Wm. Northway.....	Lucille Daniels.....	a-b-d[2]	10	Quart.	$424	Cert. or Degree
Northwestern University Medical School, Chicago.....	John S. Coulter.....	Gertrude Beard.....	a-b-d	12	JulyOct	$300	Certificate
State University of Iowa Medical School, Iowa City.....	W. D. Paul.....	Olive C. Farr.....	b-c	9	MarSept	None	Certificate
University of Kansas School of Medicine, Kansas City, Kans..	Gordon M. Martin..	Ruth G. Monteith..	c[3]	10	FebSept	$50[4]	Cert. or Degree
Bouve-Boston School of Physical Education, Boston.....	Arthur L. Watkins..	Constance K. Greene	H.S.	36	Sept	$400 yr.	Degree
Harvard Medical School, Boston.	Frank R. Ober.....	Janet B. Merrill....	a-b-c	9	Varies	$300	Certificate
Boston University College of Physical Education for Women: Sargent College, Cambridge 38, Mass.....	Louis Howard.....	Adelaide McGarrett.	H.S.	36	Sept	$435 yr.	Cert. or Degree
University of Minnesota, Minneapolis[1].....	Miland E. Knapp...	Ruby M. Green	H.S.	36	Oct	$126[4]	Degree
Barnes Hospital, St. Louis.....	F. H. Ewerhardt....	Beatrice F. Schulz..	a-b-c	9	Oct	$200	Certificate
St. Louis University School of Nursing, St. Louis[1].....	Alexander J. Kotkis..	Sr. Mary Imelda....	H.S.	36	Sept	$250 yr.	Degree
Columbia University, New York City.....	Wm. B. Snow.....	JosephineL.Rathbone	a-b-c	1 or 2 yrs	Sept	$450 yr.	Cert. or Degree
New York University School of Education, New York City[1]...	George G. Deaver...	Elizabeth C. Addoms	a-b-c	9½	Sept	$525	Cert. or Degree
Duke University School of Medicine, Durham, N. C.[1].....	Lenox Baker.....	Helen Kaiser.....	a-b-d	12	Oct	$200	Certificate
D. T. Watson School of Physical Therapy, Leetsdale, Pa.[1].....	Jessie Wright.....	Kathryn Kelley....	a-b-c	12	Oct	$200	Diploma
Graduate Hospital of the University of Pennsylvania, Philadelphia, Pa.[1].....	George M. Piersol...	Katherine S. Sutherland.....	a-b-c	12	Sept	$200	Certificate
University of Texas School of Medicine, Galveston	G. W. N. Eggers....	Ruby Decker.....	a-b-c	9	Jan	$100[4]	Certificate
Richmond Professional Institute and the Medical College of Virginia, Richmond, Va.**...	Frances Hellebrandt	Josephine Buchanan.	a-b-d	12	Sept	$200	Cert. or Degree
University of Wisconsin Medical School, Madison[1].....	Elizabeth Grimm...	Margaret Kohli.....	a-b-c[3]	12	Sept	$96[4]	Cert. or Degree

*Courses are so arranged that any of the entrance requirements will qualify students for training. a = Graduation from accredited school of nursing; b = Graduation from accredited school of physical education; c = Two years of college with science courses; d = Three years of college with science courses; H.S. = High school graduation.

**Approved also for 6 months emergency course for Navy nurses.

[1]Male students are admitted.

[2]High school graduates accepted for a four-year course leading to A.B. degree; students admitted quarterly and tuition is $148 per quarter.

[3]High school graduates accepted for four-year college course.

[4]Nonresidents charged additional fee.

The Physiotherapy Review

Editor-in-Chief: LOUISE REINECKE
Business Manager: HELEN W. ECKERSLEY
Associate Editors:
GERTRUDE BEARD
MILDRED ELSON
HELEN MILLER

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It is well known that the period following a great war is one of unrest and that it is characterized by a loss of the proper sense of values. This is being evidenced in our own profession by the frequent changing of positions and by the standards used by many in selecting positions. The two most usual requisites for a new position are (1) a certain geographic location, and (2) a high salary. These are not to be discounted as of no consequence, but they should not assume an importance out of all proportion to the real value of the position, for there are other points of *professional* importance which should be seriously considered.

The first consideration in choosing a position should be how well it fits the training, experience and personality of the individual. It is only in a situation entirely suited to one's qualifications that he can make the optimum development. One should look for a position with a future and one in which he will be able to make the best contribution according to his abilities. If the most outstanding quality of a person is the ability to organize, then that person should select a position in which there will be an opportunity to assume leadership. One who lacks experience should not try to assume the responsibilities of a position which requires more than he can produce.

Although a desirable location is important, it should not be the chief criteria for selection since the most pleasant climate cannot compensate for an undesirable or unsuitable situation.

The question of salary is being studied by the American Physiotherapy Association, and an effort is being made to raise the level generally and to promote a more equitable distribution throughout the country. There are many problems involved in this project, and salaries still are quite variable. The frequent changing of jobs does not encourage the establishment of a high salary schedule.

A careful and proper consideration of the various aspects of a position will give the physical therapist a more sound basis for selection and will prevent much of the frequent moving which is undesirable from every standpoint—personal and professional.

Twenty-Third Annual Conference

Reservations for the twenty-third annual conference to be held at the Blue Ridge Assembly, Blue Ridge, North Carolina, June 16 to 21, 1946, should be made through the National Office of the American Physiotherapy Association, 1790 Broadway, New York 19, New York. A reservation blank was sent out in the last News Letter to members. For further information regarding the conference, we refer you to the March-April 1946 issue of the REVIEW, where complete details are given.

Infantile Paralysis—1946: Physical Therapists Needed

Physical therapists who can be released to serve for a month, six weeks or longer in an epidemic area this summer are asked to write directly to the National Foundation for Infantile Paralysis, 120 Broadway, New York 5, New York. Please give dates when you can be called upon, together with present employment and experience in order that your services can be used to the best possible advantage.

There will be a need for physical therapists! Do your part by writing now so that the emergency can be met!

Muscle Examination Chart

The National Foundation for Infantile Paralysis has the corrected and revised muscle examination chart ready for distribution. You may obtain them in any quantity you need by writing to Catherine Worthingham, National Foundation for Infantile Paralysis, 120 Broadway, New York 5, N. Y.

Physical Therapy Film

The National Foundation for Infantile Paralysis has just completed a film on physical therapy entitled "Accent on Use." This is a sound film, 16 mm., and available for distribution by request to the National Foundation for Infantile Paralysis, 120 Broadway, New York 5, New York.

The showing of this film would make an excellent chapter relations project. It would be of great interest to lay groups, allied organizations and for vocational conferences in educational institutions.

Professional Status in Civil Service

Professional status for physical therapists with college degrees has been granted by the Civil Service Commission. The levels at which the various grades are to be established will be announced after May 25, 1946.

The physical therapists who are not qualified by a college degree or the equivalent will be granted the following sub-professional status depending on experience and the duties performed:

SP-5 Graduate of an approved school but without experience
SP-6 1 year experience
SP-7 2 years experience
SP-8 3 years experience
P-3 4 years experience

Applications are made directly to the Deputy Administrator of each area, regional office, or to the Manager of each hospital.

Radio Program

A half-hour radio program was presented on May 1, 1946, over station WMCA, New York City, under the direction of Doctor Goldeson of Hunter College, New York, N. Y. The story of a paraplegia with particular emphasis on the physical therapy treatment was dramatized. Miss Barbara White, field secretary, participated in between scenes, explaining physical therapy and the need for physical therapists in the paraplegic program of the Veterans Administration.

American Congress of Physical Medicine

The American Congress of Physical Medicine will hold its twenty-fourth annual scientific and clinical session September 4, 5, 6 and 7, inclusive, at the Hotel Pennsylvania in New York. Scientific and clinical sessions will be given each day. All sessions will be open to members of the medical profession in good standing with the American Medical Association. In addition to the scientific sessions, the annual instruction courses will be held September 4, 5, and 6. These courses will be open to physicians and to physical therapists registered with the American Registry of Physical Therapy Technicians. For further information, address American Congress of Physical Medicine, 30 North Michigan Avenue, Chicago 2, Illinois.

Physiatrist

Now that the term "physical medicine" has replaced the designation physical therapy and has been generally accepted throughout the United States, a one word term is needed to designate the physician who specializes in this field. There now exist the Council on Physical Medicine of the American Medical Association, the American Congress of Physical Medicine and the Society of Physical Medicine. The Council now publishes a "Handbook of Physical Medicine" and the Congress publishes the *Archives of Physical Medicine*. There has been a tendency to speak of technical workers in this field as physiotherapists or physical therapists. For more than two years a representative group from the membership of the American Congress of Physical Medicine has been discussing a suitable designation for the physician who specializes in physical medicine. Three such designations have been proposed, and all sound strange when first used. The three terms which have been suggested are (1) "physiatrist," (2) "physiatrician" and (3) "physicologist." Among all groups of physicians who have discussed these terms a distinct preference has been expressed for the designation "physiatrist." While this term may sound peculiar to the uninitiated ear, the terms "psychiatrist," "physicist," "internist" and "orthopedist" probably sounded equally queer when they were first proposed. The term "physiatrics" already appears in standard dictionaries as an acceptable word. The designation "physiatrist" is etymologically correct and stems from pure Greek origins. It derives from the two Greek words "physis" and "iatreia." "Physis" pertains to physical phenomena or natural phenomena and the terms "physicist" and "physiologist" derive their first syllables from the same origin. "Iatreia" refers to healing or healer or physician, so that a physiatrist would be a physician who employs physical agents. At its last annual meeting the Council on Physical Medicine voted to sponsor the term

"physiatrist" as the designation for the physician specializing in physical medicine. Now that fellowships or residencies in physical medicine are being offered at such institutions as the University of Pennsylvania, University of Minnesota, Harvard University, New York University, Ohio State University and University of Kansas and at many other medical centers, a one word term should designate physicians who complete such fellowships.—*From "Current Comment," J.A.M.A., 131:1:34, May 4, 1946.*

California's Program for Cerebral Palsy

A program for the treatment of children with cerebral palsy is being developed in California under the cooperative administration of the Departments of Public Health and Education and the University of California Medical School. The plans include two diagnostic and treatment centers, one in San Francisco and one in Los Angeles in connection with the University Medical Schools and hospitals, two residence schools and the establishment of special classes in the local school systems. The medical aspects and direction will be provided respectively by the University Medical School and the State Department of Public Health.

Opportunities for physical therapists who have successfully completed a course approved by the Council on Medical Education and Hospitals of the American Medical Association and with varying degrees of experience are now available in the diagnostic and treatment centers, the residence schools and for work in local communities. Special training as is needed in the treatment of cerebral palsy will be provided before assignment to a local community.

For those who are assigned for work locally, one year's supervised experience in physical therapy is required.

Salaries range from $200 to $300 per month depending on qualifications, experience and assignment. Application should be made to the Bureau of Maternal and Child Health, State Department of Public Health, 760 Market Street, San Francisco 2, California.

Swedish-American Fellowship

The Swedish-American Foundation announces the appointment of Miss Elizabeth Westervelt to a fellowship for graduate study at the Royal Gymnastic Institute in Stockholm, Sweden.

Miss Westervelt, whose home is in Hempstead, New York, received her Bachelor's Degree in Physical Education from the Woman's College, University of North Carolina in 1937. After two years of teaching in Tulane University, New Orleans, Miss Westervelt began the study of physical therapy under Dr. Thomas Wheeldon, Richmond, Virginia. Having completed this course, Miss Westervelt went as physical therapist to the Children's Hospital, Boston, and for the past three years she has been at the Hospital for Special Surgery in New York City.

Miss Westervelt plans to use her study in Sweden towards writing for students in physical therapy a textbook on kinesiology, corrective exercises and muscle reeducation. Miss Westervelt was chosen for the fellowship from a list of more than two hundred applicants. She has been studying the Swedish language for the past year and sails in July for a few months in the country for practice in speaking the language. Her study at the Royal Gymnastic Institute and at the Medical College will begin in the autumn.

Courses for Teachers of Special Class Children

The School of Education of Syracuse University, Syracuse, New York, announces a program on special education which will be held during their summer session, July 1 to August 10, 1946. The program will consist of graduate and undergraduate courses for teachers of special class children who are (1) blind, (2) crippled, (3) deaf, (4) hard of hearing, (5) who have partial vision, and (6) who have retarded mental development. For further information, write to Keith J. Kennedy, Registrar, Syracuse University, Syracuse 10, New York.

Dinner Honors Mrs. Roosevelt

The Women's Joint Congressional Committee, of which the American Physiotherapy Association is one of twenty-two member organizations, sponsored a dinner in honor of Mrs. Franklin D. Roosevelt, U. S. delegate to the General Assembly of the United Nations Organization, at the Mayflower Hotel, Washington, D. C., on March 14, 1946.

Miss Mia Donner, President of the District of Columbia Chapter of the American Physiotherapy Association and delegate to the Women's Joint Congressional Committee, and ten other members of the District of Columbia Chapter were present.

The room was beautifully decorated, and music during the dinner was provided by the

Marine Band. Miss Donner reports that it was a most interesting and inspiring occasion and that the ballroom was filled to overflowing with more than a thousand women.

Federal Security Agency Physical Medicine and Rehabilitation Program, U. S. Public Health Service, Hospital Division

Plans for Organization in a Hospital

1. The U. S. Public Health Service has established in the Hospital Division of the Bureau of Medical Services a section of Physical Medicine and Rehabilitation. The program has been selected for special attention to bring it to full development in the Marine Hospitals and other field stations of the Service.

2. To accomplish this end it is planned to establish in each one of the larger hospitals (250 beds or over) a service devoted to physical medicine and rehabilitation, fully integrated with the other medical services and under the supervision of a physician especially trained in this field. He will be responsible for the proper functioning and development of the service. Out-patients as well as in-patients will receive the benefits of this service.

3. Physical therapy and occupational therapy will be coordinated and a close liaison maintained with the local vocational rehabilitation agency. Vocational counsellors will be called upon to interview and test patients as the need arises. The Medical Social Service Department of the hospital will, in certain instances, be a very necessary adjunct to the successful rehabilitation of a patient. Without such service, some otherwise avoidable difficulties will present themselves, which will affect the patient adversely.

4. If as a result of injury or illness a patient will be unable to return to his former occupation, vocational rehabilitation must be commenced at the earliest moment consistent with good medical care. In such instances the State vocational rehabilitation agency will be called. When a patient requires referral to such an agency, the preliminary or pre-vocational rehabilitation work can be started within the Service hospital, thus saving valuable time for the patient.

5. Fully qualified physical and occupational therapists will be employed on the staffs.

6. Complete and accurate records on the progress or regression of every patient will be maintained. No department can function adequately without exact information in this matter. Cases will be reviewed and evaluated periodically and no "dead wood" will be allowed to accumulate.

7. As the program develops, it is planned to provide opportunities for therapists to take "refresher" or postgraduate courses in their field. When the program is functioning at a hospital, it is also planned to have students from nearby approved schools of physical and occupational therapy assigned for instruction to the chiefs of those departments as a part of the school curricula, so that these students can obtain practical experience with patients.

8. The headquarters staff will at present consist of a director of physical medicine and rehabilitation and a chief of physical therapists. As the program develops, others may be added on a part-time or a consultant status if required. All matters concerning physical therapy, occupational therapy and rehabilitation will be under the supervision of the director of physical medicine and rehabilitation. To assure a uniformly first-class personnel, standards and requirements for qualification of physical and occupational therapists in the various grades will be formulated to provide the best quality of therapists as heads of departments and in all the other grades.

9. It is estimated that about 30% of the patients are of a type who will benefit by some form of physical or occupational therapy as a part of their medical treatment to speed up convalescence and the return to gainful employment as a result of the earlier restoration of function to normal, or as near normal as possible.

10. In addition to the physical and occupational therapy treatment planned, the use of motion pictures as a visual aid in rehabilitation is of importance. With the large number of films available in the fields of education, industrial training of the handicapped, job information, vocational training, therapy procedures, etc., this medium will also be developed as part of the program.

11. The majority of U. S. Marine Hospitals are of a general medical and surgical type and for them this program has been planned. Those hospitals caring exclusively for psychiatric or tuberculosis patients require a special program of a somewhat different nature.

12. In the 27 hospitals with a bed capacity of somewhat over 7,200, the following represents the types of beneficiaries cared for during 1945 and the approximate percentages in each main group:

Merchant Seamen	37%
Coast Guard	25%
Miscellaneous	18%
Veterans	12%
U. S. Employees Compensation Commission	8%

New Members

The following are newly accepted members of the American Physiotherapy Association:

Antman, Lt. Helen—overseas.
Argianas, Mary D., Madigan General Hospital, Fort Lewis, Wash.
Arnold, Geraldine Rae, WOQ Great Lakes Training Center, Great Lakes, Ill.
Bachanz, Lillie M., 2114 N. Summit Avenue, Milwaukee 2, Wis.
Bailey, Josephine M., Lawson General Hospital, Atlanta, Ga.
Bakke, Joyce, 11 West Harrison, Iowa City, Iowa.
Barry, Constance, 804 Howard Avenue, New Haven, Conn.
Beit, Charlotte, 19 Murchison Place, White Plains, N. Y.
Brouillard, Myrna G., 1195 Central Avenue, Dubuque, Iowa.
Brown, Norma D., 43 Orchard Street, Ridgefield Park, N. J.
Bryson, Viola, 1761 Massachusetts Avenue N. W., Washington 25, D. C.
Bufe, Mrs. Marguerite, Army Medical Center, Washington, D. C.
Bundt, Francine B., P. T. Clinic, Cushing General Hospital, Framingham, Mass.
Casey, Helen J., 89 Union Park Street, Boston, Mass.
Covell, Ellen M., 146-27 Beach Ave., Flushing, L. I., N. Y.
Christiansen, Louise E., 84 Acorn Street, Staten Island 6, N. Y.
Culler, Marjorie, 205 Lexington Avenue, Aspinwall, Pa.
Dodd, Virginia, Hotel Faust, Rockford, Ill.
Donovan, Mary L., 474 Bramhall Avenue, Jersey City, N. J.
Drake, Angela, Reconstruction Home, West Haverstraw, N. Y.
Easterbrook, Mrs. Susanne R., Rhoads General Hospital, Utica 5, N. Y.
Ehrhart, Lt. Katherine, O'Reilly General Hospital, Springfield, Mo.
Elam, Vallie L., McGuire General Hospital, Richmond, Va.
Finney, Opal Joy, Mukwonago, R. R. 1, Wis.
Frost, Lt. Virginia L., P. T. Dept., Station Hospital, Champ Chaffee, Ark.
Goldblatt, Beatrice H., England General Hospital, Atlantic City, N. J.
Hadeland, Lt. Martha, Rhoads General Hospital, Utica, N. Y.
Halldorsdottir, Kristin, 4582½ Sunset Boulevard, Los Angeles, Calif.
Harker, Virginia Holt, Hotel Faust, Rockford, Ill.
Hemmer, Josephine A., 807 N. Madison Avenue, Los Angeles, Calif.
Hiss, Laura George, P. T. Clinic, Rhoads General Hospital, Utica, N. Y.
Hummer, Gladys, England General Hospital, Atlantic City, N. J.
Johnson, Maybelle F., % H. B. Kahn, 2470 University Avenue, New York, N. Y.
Kelley, Lt. Ruth J., Newton D. Baker General Hospital, Martinsburg, W. Va.
Lee, Mrs. Dorothy Mathy, 1519 E. Marquette Road, Chicago 37, Ill.
Lysen, Ruby E., Great Falls Hospital, Great Falls, Mont.
McCulloch, Lt. Margaret, Halloran General Hospital, Staten Island, N. Y.
McKay, Kathleen E., % C. J. Dudley, 1233 Ewing Street, Fort Wayne, Ind.
McKinney, Marian M., 316 W. 84th Street, % Mrs. Holly, New York, N. Y.
Mahard, Cynthia, 18 Beacon Street, Natick, Mass.
Meyer, Barbara, 779 Brooklyn Avenue, Brooklyn 3, N. Y.
Mitchell, Anne D., P. T. Clinic, Rhoads General Hospital, Utica, N. Y.
Mitchell, Lucy M., 533 - 32nd Street, West Palm Beach, Fla.
Morris, Gladys Mae, 210 8½ Avenue N. W., Rochester, Minn.
Moss, Juliet Ann, 829 - 2nd Street S. W., Rochester, Minn.
Norton, Sudie Roe, Army-Navy General Hospital, Hot Springs, Ark.
Pace, (Mr.) Robin, 19 Trinity Street, Santa Cruz, Calif.
Payne, Lorna A., Claremont, Minn.
Perry, Mary Louise, 1590 Sutter Street, San Francisco, Calif.
Prettyman, Mrs. Eve, 2527 Maple Avenue, Dallas, Tex.
Rolston, Mary J., P. T. Clinic, Cushing General Hospital, Framingham, Mass.
Rombold, Ruthelma L., 4616 Chevy Chase Boulevard, Chevy Chase, Md.
Scheele, 1560 Dakota Avenue South, Huron, S. D.
Schelter, Mrs. Roberta Craig, 1116 E. Genesee Street, Syracuse, N. Y.
Schwartz, Rosalyn, 2315 - 81st Street, Brooklyn 14, N. Y.
Shurtleff, Margaret, WAC Det. P.T.A. School, Lawson General Hospital, Atlanta, Ga.
Smith, Virginia R., Lawson General Hospital, Atlanta, Ga.
Staael, Nora, 1850 Jackson Boulevard, Chicago, Ill.
Swanson, Amelia, 721 East 7th Street, Erie, Pa.
Tanner, Virginia A., Veterans Administration, Castle Point, N. Y.
Tearse, Patricia A., 5829 Virmar Avenue, Oakland, Calif.
Thorpe, Julia Marie, Route No. 12, Richmond, Va.
Urban, Marian, 223 S. Johnson Street, Iowa City, Iowa.
Wempe, Thelma Rose, 3425 Wyandotte, Kansas City, Mo.
Wenstrom, Hildegard, England General Hospital, Atlantic City, N. J.
Windt, Mrs. Jean McCann, Salt Lake General Hospital, Salt Lake City, Utah.
Wood, Marjorie, 134 N. Hancock Street, Madison 3, Wis.
Wood, Mildred Louise, Ashford General Hospital, White Sulphur Springs, W. Va.

Recent Graduates from Stanford University, Calif.:

Alexander, Joseph A.	Harmony, Wilma-Nell
Brash, Mrs. Gertrude H.	Mittlacher, Helen
Eskridge, Martha Ann	Rowe, Elaine B.
Evans, Mrs. Janet Campbell	Walker, Mary Suzanne

Recent Graduates from Fitzsimons General Hospital, Denver, Colo.:

Angelotti, Gloria A.	Garton, Patricia Ann
Barrett, Jean	Gillett, Emily E.
Brockway, Marian L.	Hart, Marjorie E.
Cartwright, Helen Marie	Hopkins, Margaret Jane
Davis, Annie Foley	Muller, Marilyn
Desch, Elizabeth M.	Palmer, Imogene
DeZwarte, Helen L.	Partridge, Miriam J.
Fooshe, Nelle N.	Rourke, Dorothy J.

Major Vogel Awarded Legion of Merit

The Surgeon General announces the award of the Legion of Merit to Major Emma E. Vogel, Director of Physical Therapists, U. S. Army. The presentation was made by The Surgeon General of the Army, Major General N. T. Kirk, at the monthly meeting of the Medical Department officers held at the Walter Reed Medical Center, Washington, D.C., on February twenty-first, 1946.

The citation reads as follows:

"Major Emma E. Vogel, M-1, Medical Department Physical Therapist, Army of the United States, as Director, Physical Therapists, Office, Surgeon General, from January 1943 to December 1945, effectively organized the Physical Therapists' Branch, formulating policies and plans to insure the highest standards of treatment for the sick and wounded. Major Vogel's services were at all times characterized by outstanding accomplishment and unselfish devotion to duty."

Major Vogel has had a long and distinguished career in the field of physical therapy. During World War I she served in several Army hospitals in a civilian capacity and in 1922 she assisted in the organization of the first Medical Department Training Course in Physical Therapy at the Walter Reed General Hospital, Washington, D.C. She served as technical supervisor of this course until 1942.

Major Vogel was assigned as Superintendent of Physiotherapy Aides, Office of The Surgeon General, in August 1942, which position she held until the passage of Public Law 828 on December 22, 1942, authorizing military status for this group. Following this legislation, Major Vogel was appointed as the first Director of Physical Therapists, effective January 12, 1943, in which capacity she has served with outstanding distinction to the present date.

During her service as Director of Physical Therapists, Major Vogel has organized the Physical Therapy Branch, formulated administrative policies, and assisted and advised in the preparation of Army regulations and directives pertaining to this new military group. In addition, through her efforts and under her direction, training courses for physical therapists were established in nine selected Army hospitals to supply critically needed and adequately trained personnel. The number of physical therapists appointed grew from 289 on March 31, 1943, to approximately 1400 on V-J Day. Of this number, about 800 received either their entire professional training or completed apprenticeship in the courses in physical therapy, offered by the U. S. Army.

During this period, Major Vogel also has acted as advisor to The Surgeon General and to various divisions of The Surgeon General's Office in matters pertaining to physical therapy. She has worked untiringly to maintain the highest standards of education and professional training for physical therapists appointed as members of the U. S. Army Medical Department. Policies and plans formulated under her guidance have been reflected in the high caliber of physical therapy treatment afforded to the sick and wounded in Army hospitals.

Termination of Army Physical Therapy Courses

Graduation exercises for the current class of seventeen students completing the training course for Medical Department Physical Therapists at Walter Reed General Hospital, Washington, D. C., were held on April 6, 1946. Lt. Colonel Donald L. Rose, Consultant in Physical Therapy to The Surgeon General, was the principal speaker.

This event marked the termination of the physical therapy training program conducted by the Medical Department at the Army Medical Center, which, with the exception of the year 1933-1934, has been in operation since 1922.

Over half of the Medical Department Physical Therapists commissioned in the Army of the United States are graduates of the physical therapy training courses conducted by the Army. Similar courses formerly conducted at Lawson General Hospital, Brooke General Hospital, and O'Reilly General Hospital already have been terminated. The course conducted at Fitzsimons General Hospital will terminate on May 10, 1946, and the remaining courses at Bushnell General Hospital, Percy Jones General Hospital and Ashford General Hospital will terminate in July and August of this year.

Army Physical Therapy Exhibit

The Physical Therapy Branch, Office Surgeon General, in cooperation with the Physical Reconditioning Branch, also of that office, presented an exhibit at the National Convention of the American Association for Health, Physical Edu-

cation and Recreation held in the Jefferson Hotel, St. Louis, Missouri, from April 9 to 13, 1946.

The exhibit was designed to illustrate the physical therapy and physical reconditioning exercise programs conducted by the Medical Department of the Army and included a display of remedial and developmental exercise apparatus in current use.

Two panels 7′ x 9′ in a space approximately 21′ x 10′ were used for these displays. The therapeutic exercise program employed in the treatment of various combat injuries which was under supervision of the Physical Therapy Branch was illustrated by the use of 26 still photographs. Activities of the Physical Reconditioning Branch were shown on the second panel by still photographs, posters, and exercise charts.

The Physical Therapy Branch was represented by Captain Olena M. Cole, M-668, who organized and prepared the exhibit.

Artificial Limb Shop in Philippines

The Surgeon General announces that an artificial limb shop for the Army's Filipino amputees will be established in the Philippine Islands in the near future. The project, which it is anticipated will require six months to organize, will be directed by a group of especially qualified personnel selected from the Army's Amputation Centers.

This center, to be located near Manila, will have the two-fold purpose of establishing an organized limb shop as well as providing instruction for the Filipino Medical Department personnel. When they are considered sufficiently skilled, the shop will be turned over to them for operation.

One of the officers selected for this team is First Lieutenant Carol Stange, M-531, Medical Department Physical Therapist, who has had extensive experience in the physical therapy phase of the amputation program at Lawson and McGuire General Hospitals. A fully equipped gymnasium will be set up under her direction where she will organize the walking program, instruct the Filipinos in exercise technics, and other routine procedures. Prior to her departure, Lieutenant Stange was assigned to the Office of The Surgeon General for a few days conferring on final arrangements for the physical therapy phase of this interesting project.

Army Promotions

The Surgeon General of the Army announces the promotion of the following Medical Department Physical Therapists to the grade of First Lieutenant:

Stationed in the United States:

Almquist Mary—Station Hospital, Camp Polk, La.

Eckart, Louise—Regional Hospital, Robins Field, Macon, Ga.

Fletcher, Margaret—Convalescent Hospital, Fort Custer, Mich.

Gordon, Madeline—Regional Hospital, Sheppard Field, Wichita Falls, Tex,

Witter, Dorothy—Percy Jones General Hospital, Battle Creek, Mich.

Stationed Overseas:

Carlson, Phoebe
Garret, Patricia
Johnson, Margaret
Martini, Olga
Sachs, Bette
Seng, Edna
Short, Margery
Walsh, Frances
Wilson, Katharine

The Surgeon General of the Army announces the promotion of the following Medical Department Physical Therapists from the grade of First Lieutenant to the grade of Captain:

Jakubzak, Charlotte—Station Hospital, Fort Sill, Okla.

Robertson, Barbara—Ashford General Hospital, White Sulphur Springs, W. Va.

Index to Current Literature

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The Challenge of Crutches. V: Daily Activities on Crutches. GEORGE G. DEAVER AND MARY ELEANOR BROWN. Arch. Phys. Med., March 1946.

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Benches of Different Heights. EDWIN R. ELBEL AND EARL L. GREEN. Amer. J. Physiol., Feb. 1, 1946.

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Treatment of Sciatica with Alternating Current. ABRAHAM COHEN, FRANCIS P. NASEILI AND MARIE P. CRAIG. Arch. Phys. Med., April 1946.

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Hypnosis as a Therapeutic Technique in the War Neuroses. HERMAN S. ALPERT, HUBERT A. CARBONE AND JAMES T. BROOKS. Bull. U. S. Army Med. Dept., March 1946.

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Applying the Orthopedic Principle. CAROLYN BOWEN. Public Health Nursing, April 1946.

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Physical Reconditioning After Rheumatic Fever. PETER V. KARPOVICH, MERRITT P. START, ROBERT W. KIMBRO, CHARLES G. STOLL AND RAYMOND A. WEISS. J.A.M.A., April 27, 1946.

Adaptability of Present Day Concepts of Convalescent Training and Physical Rehabilitation to the Civilian Practice of Medicine. F. A. HELLEBRANDT. Arch. Phys. Med., March 1946.

ABSTRACTS

John S. Coulter, M.D.

The Therapeutic Value of Early Physical Activity in Rheumatic Fever: Preliminary Report

Lt. Colonel Harold F. Robertson, M.C., A.U.S., Major Ralph E. Schmidt, M.C., A.U.S. and Captain William Feiring, M.C., A.U.S., Orlando, Florida. In THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, 211:1:73, January 1946.

This paper is a preliminary report of observations made on 200 patients on whom the diagnosis of acute rheumatic fever was made by the clinical and laboratory criteria recommended by the Army Air Forces. From this study we have been impressed by two things: first, the high incidence of anxiety neuroses, often to a disabling degree; and second, the fact that prolonged bed rest was not necessary for an uncomplicated rapid recovery. Furthermore, early ambulation has greatly reduced the incidence and severity of the anxiety neuroses. The usual clinical and laboratory criteria for judging activity of the disease were not regarded as contraindications for starting early ambulation—the patient's physical comfort was the determining factor. Four case reports are included which illustrate our present program.

We recognize that this study does not warrant any

dogmatic conclusions at this time; nor do we advocate indiscriminate physical activity. Nevertheless, it does invite attention to reevaluation of the currently accepted policy of prolonged bed rest, with its disadvantages, in the treatment of acute rheumatic fever.

The Obligation of the Physical Therapist

IN BRITISH MEDICAL JOURNAL, No. 4443:321, March 2, 1946.

As a result of the war the science and practice of physical therapy have gained wide publicity, and the chartered physical therapist is recognized as an essential member of the rehabilitation team. Nevertheless, far too little is still known both of the standard of training and of ethical conduct required of physical therapists. A body for the training, examination and registration of physical therapists has been in existence since 1894, the date of the foundation of the I.S.T.M. A Royal Charter was granted to that Society in 1920 when it took the name of the Chartered Society of Massage and Medical Gymnastics, and in 1943 it became known as the Chartered Society of Physiotherapy, thus denoting the increasing scope of a physical therapist. Over many years the standard of training laid down by the Chartered Society has been progressively raised, and the length of the course has been increased from a few months in 1894 to the present length of two and one-half years. When the new curriculum is introduced the training will extend over three years.

From the earliest days the Chartered Society has insisted on a strict ethical code for its members. Before being admitted to the Register a chartered physical therapist must sign an undertaking "not to undertake any case except under the direction of a registered medical practitioner." Attention is called to this by-law in a letter published in our correspondence columns from Dr. W. S. C. Copeman, Chairman of the Council of the Chartered Society of Physiotherapy. This ethical by-law affects not only the chartered physical therapist but also the patient and the medical practitioner. It safeguards the patient against loss of time and money and the consequences of unsuitable treatment, while the physician knows that he will have the loyal cooperation of the physical therapist and highly skilled treatment for his patient.

Shoulder and Arm Pain of Scalenus Anticus Origin

W. Craig Hendricks, M.D., Brookville, Pa. In THE PENNSYLVANIA MEDICAL JOURNAL, 49:6:616, March 1946.

Surgery vs. Physical Medicine

A review of the literature leaves the impression that surgical section of the scalenus anticus is the only treatment for this condition. There is no doubt such an operation is successful, but most of these people need not come to surgery; the majority can be cured by the methods to be set forth. They are available to practically every general practitioner, and certainly conservative treatment should be used first. Its aim is to relax scalenus anticus spasm by attacking in three ways: First is local heat, infra-red rays or diathermy; and low-wave frequency seems the most efficient. Second, lifting the shoulder by a sling, figure-of-eight bandage or aeroplane splint. Third, Reichert's three pillow arrangement, which is an ingenious method. With the patient on his back, it brings the head and shoulders forward. With the patient lying on the bad side with his shoulder on the mattress, a thick pillow is placed between head and mattress to prevent the head rotating toward the bad side. If he lies on the good shoulder, a pillow is placed under the bad elbow and forearm to elevate the affected shoulder.

Novocaine injection of the anterior scalene was mentioned as a diagnostic aid; it also is excellent treatment, and repeated injections will cure many cases.

Studies on Neuromuscular Dysfunction—V: Neostigmine Therapy of Acute and Chronic Backache

Herman Kabat. M.D., and Charles W. Jones, M.D., United States Public Health Service, Washington, D. C. In ARCHIVES OF PHYSICAL MEDICINE, XXVII: 4:208, April 1946.

Neostigmine has an established place in the therapy of myasthenia gravis. In this disease there appears to be a defect in conduction at the myoneural junction which can be corrected by neostigmine. The fatigue and weakness of the disease are overcome by the drug apparently through action on cholinesterase at the myoneural junction, with resulting facilitation of the passage of excitation to the skeletal muscle.

An inhibitory action of neostigmine on the motor system may occur in two ways: (1) Neostigmine acts at the myoneural junction in small doses as a stimulating agent, but in larger doses in normal persons it acts to inhibit transmission at the myoneural junction. (2) By action directly on the spinal cord neostigmine depresses deep reflexes and muscle tonus both in animals and in man.

Kabat and Knapp also studied the mechanism of the inhibitory action of neostigmine. They observed an inhibitory effect on muscle spasm from intrathecal administration; they showed that the effect was not blocked by atropine and that decrease in incoordination and reflex hyperirritability could not be explained by action of the drug at the myoneural junction. They therefore suggested that the inhibitory action on muscle spasm and incoordination in poliomyelitis could best be explained as an action of the drug at synapses in the spinal cord. More recent observations of Kabat on the effects of neostigmine in hemiplegia provide additional evidence that the drug acts centrally at synapses, since relaxation of old contracture and increase in voluntary power have occurred during neostigmine therapy in the same muscle at the same time; this can best be understood by assuming a central action of the drug.

The present report is the result of an investigation of the therapeutic effect of neostigmine on acute and chronic backache. Backache may result from a wide variety of causes, and the mechanisms are complex and frequently obscure and controversial. However, muscle spasm is in many instances a major factor in the disability and may persist long after its possible usefulness as a splinting mechanism has been exhausted. The observations presented hereafter indicate that neostigmine may be effective in the relaxation of muscle spasm in patients with low back pain.

Atropine was used routinely with neostigmine to eliminate the unpleasant parasympathetic side effects. Since the inhibitory effect of neostigmine on muscle spasm is presumably central and since atropine does not interfere with the action of neostigmine on the central nervous system, the efficacy of the treatment is probably not reduced by the addition of atropine. The dose of neostigmine and atropine should be adjusted to the individual patient on the basis of the systemic effects observed.

A word of caution with regard to large doses of

neostigmine, as reported in this study, is in order. While only insignificant and minor reactions were observed in most patients, and the patients frequently continued their daily occupation, neostigmine is a powerful drug and the physician must keep a close watch for symptoms of toxicity. A few patients are sensitive to small doses, while others take large amounts without showing any toxic reactions. A safe procedure is to start with a small test dose of neostigmine and atropine and build up and adjust the dose according to the tolerance shown. Patients given neostigmine and atropine must be seen frequently so that toxic reactions may be avoided. Viets, who has had extensive experience with neostigmine in the treatment of myasthenia gravis, stated recently that no patient is known to have died from neostigmine.

Chronic Backache. Neostigmine therapy was tried in 24 cases of subacute and chronic back pain. The duration of the disability varied from one month to twenty years. Other methods of treatment had been applied previously without relieving the condition. Eight of the patients were given injections of saline solution daily for one week as a placebo without showing improvement. In 15 of the 24 cases, or 62 per cent, significant improvement was observed in the course of several weeks of daily injections of neostigmine and atropine. In the other 9 cases improvement was either slight or absent. The improvement, as a rule, was retained after therapy was discontinued.

Summary

1. Neostigmine was administered in 47 cases of low back pain. Relief of pain, increase in range of motion, relaxation of muscle spasm and increase in strength were observed. The improvement as a rule was retained after therapy was discontinued.

2. Fifteen of 24 patients with chronic backache who had failed to respond to other forms of treatment showed significant improvement from neostigmine therapy. The duration of the disability in these cases ranged from one month to twenty years. A series of injections of saline solution as a placebo administered to one group of patients failed to influence the disability.

3. Five of 8 patients with chronic disability from fracture of a lumbar vertebra showed significant improvement with neostigmine therapy.

4. Eleven of 15 patients with acute low back pain from lumbosacral or sacroiliac strain or from intramuscular fibrositis were relieved rapidly by neostigmine therapy.

Faulty Management of Psychiatric Syndromes Simulating Organic Disease

A. E. Bennett, M.D., assisted by Bernice Engle, A.M., Omaha. In JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 130:17:1203, April 27, 1946.

Twenty years' practice of psychiatry in a general hospital and teaching of medical students have convinced me that the most important problem before our profession is the need for greater interest and more accurate knowledge about psychiatry.

Mistakes in diagnosis and treatment of patients with functional, psychoneurotic, psychosomatic or actual psychotic disorders are so common as gravely to discredit the acumen of the medical profession. These mistakes encourage patients to make the rounds of physicians and even of cultists and quacks, contribute largely to public dissatisfaction with medical care, since benefits of treatment are only temporary, and work heavy financial hardships, which help increase the clamor for some system of socialized medicine.

Medical men must learn that psychoneuroses and psychoses are mental illnesses not secondary to physical disease and that no form of rest cure, drug therapy, surgery or any approach directed to treating an emotional problem at a physical level is scientific. The sick man becomes the "forgotten man" in face of the battery of diagnostic and therapeutic tests, like a guinea pig in physiologic experiments. Medicine is still an art but is to be applied scientifically. The physician-patient relationship has been made a better tool by recent scientific discoveries. On this new scientific basis the art of the practice of medicine must be reintroduced. The sick man's personality must be judged along with the physical and laboratory data. When the evidence points to emotional and social maladjustment we must treat mental illness and thus avoid discredit to the profession.

Summary

Faulty medical and/or surgical treatments were compared with modern psychiatric treatment in a detailed study of 150 psychoneurotic and psychotic patients. This study and pertinent citations from the literature indicate that the general medical profession fails to recognize and treat properly mental illness. The result is a tremendous army of maladjusted persons going from physician to physician and receiving illogical medical and surgical therapies that only aggravate their personality problems.

Proper psychiatric treatment is shown to result in social rehabilitation of the great majority of patients. Unfortunately, years of invalidism usually precede such treatment because of the bad professional attitude toward psychiatry.

The fundamental cause of these mistakes is failure in medical schools to emphasize properly psychiatric education. Correction of this defect necessitates a complete change in medical curriculums and teaching. The entire problem is too great for psychiatrists alone; all physicians of the future will have to practice some psychiatric medicine.

Infectious Polyneuritis (Guillain-Barre Syndrome)

Roscoe L. Pullen, M.D., and W. A. Sodeman, M.D., Tulane University of Louisiana, Departments of Medicine and Preventive Medicine and Charity Hospital of Louisiana, New Orleans, Louisiana. In THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, 211:1:118, January 1946.

Treatment is supportive and symptomatic. In view of the fact that this entity is self-limited and accompanied by a high degree of recovery, it is difficult to evaluate any form of treatment. In the early phases of the illness, attention should be directed toward the alleviation of pain and the maintenance of adequate fluid intake and nutrition. Nursing care is especially important, particularly for those in whom involvement of the rectal or vesical sphincters has occurred as well as for those with respiratory difficulties. Occasionally use of the Drinker respirator as well as repeated aspiration of mucus from the respiratory passages is indicated. Reassurance and the maintenance of morale becomes an important duty of the attending physician. Protective splints should be applied to prevent any undue contracture or elongation of paretic muscles. As the acute stages pass, physical therapy in the form of active and passive exercises, hydrotherapy and massage should be instituted. The Kenny method has been employed by several investigators without any conclusive results.

Traveller's Edema

K. Zacopoulos, M.D., Chief M.O. of the Greek Sacred Regiment (Raiding Forces). In BRITISH MEDICAL JOURNAL, No. 4443:322, March 2, 1946.

Conclusions

(1) There is a form of edema caused by inactivity to which travellers by sea, rail, or road are subject. We consider it advisable to call this "traveller's edema," as only this term covers all the cases that may appear. We prefer the term to two others which could be suggested: "inactivity edema" and "orthostatic edema." The first lays stress on the lack of movement but not on the vertical position of the lower extremities. Also we must not overlook the fact that inactivity alone in many cases does not cause edema. The second term lays emphasis on the standing position—a most important factor, as was observed in the second group of patients; but standing without inactivity will not cause edema of the ankles in healthy individuals. Even patients with varicose veins will not develop edema if the heart is normal and their lower extremities are active.

(2) Traveller's edema is caused purely mechanically in cases in which there is a great diminution, or complete absence, of muscular movements of the extremities in persons who are sitting or standing for prolonged periods.

(3) Treatment is simple. Repeated active or passive movements of the lower extremities must be started immediately. Tepid bathing of the feet is advisable, with simultaneous massage and passive movements of the toes, ankles and calves. An elastic stocking might be tried in those few cases which do not respond promptly to massage and tepid baths.

(4) Prophylaxis is obvious. Travellers must be warned against complete inactivity, and whenever possible must avoid standing up during long journeys.

The Remaining Task

Major General Norman T. Kirk, The Surgeon General. In THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 130:14:920, April 6, 1946.

The program for paraplegics concerns only a relatively small number of men, but to me it is a shining example not only of the professional competence of the physicians who served and are serving in the Army but even more of their humanity.

Until this program was instituted, men with spinal cord injuries and resulting paralysis were regarded as hopeless invalids, and I fear that they were treated as such. That attitude has been completely reversed by the Army Medical Corps, which met the problems of this injury with all the resources of the profession.

First, operation was performed promptly in all proved or suspected cases of spinal cord injury, chiefly because exploration proved to be the only sure way of determining whether or not the condition could be relieved surgically. Operation was also done promptly; in one reported series 57 per cent of the patients showed improvement when they were operated on within five days after their injuries, against only 10 per cent when operation had been deferred beyond this period.

The next phase of management, however, was chiefly urologic. No untrained attendant ever participated in the care of a paraplegic's bladder.

As to decubitus ulcers, patients who arrived in the Zone of the Interior with pressure areas properly protected seldom developed them here because every possible measure was employed to keep them free of this complication, frequent changes of position again being the most important part of the regimen.

Finally came the matter of ambulation. We did not deceive ourselves about that. Ambulation is beyond the capacity of all but a few paraplegics. But ambulation in the sense of getting about by braces and crutches sufficiently to care for themselves, is a definite possibility for most patients with cord lesions at or below the tenth dorsal vertebra and is a more guarded possibility for patients with lesions below the second dorsal vertebra. In lesions above that level ambulation is not possible, but a wheel-chair existence is.

In other words, so far as this program was concerned, a bedridden patient was simply not conceived of. When a man reached a paraplegic center it was taken for granted that he would be out of bed promptly, or at least as soon as certain physical deficiencies had been corrected, and that he would attempt to walk with equal promptness.

There has been nothing like these results in the previous history of neurosurgery; they were achieved against untold odds. The urologic care of the paraplegic is a never ending struggle against infection. Instruction in ambulation is tedious and difficult for instructor as well as for instructed. The care of decubitus ulcers is often a loathsome task, and the details of their prevention are endless. But in these army centers these difficulties were overcome by the unified efforts of neurosurgeons, plastic surgeons, orthopedic surgeons, urologists, internists, nutritionists, nurses, dietitians, physical therapists and hospital corpsmen.

The Effect of Electrical Stimulation Upon the Course of Atrophy and Recovery of the Gastrocnemius of the Rat

A. J. Kosman, S. L. Osborne and A. C. Ivy. From the Department of Physiology, Northwestern University Medical School, Chicago. In THE AMERICAN JOURNAL OF PHYSIOLOGY, 145:4:451, February 1, 1946.

When the sciatic nerve is crushed bilaterally under identical conditions the loss of weight and tension for both right and left gastrocnemii are approximately equal.

Loss of tension occurs at a more rapid rate and to a greater extent than weight loss. Conversely, tension returns more rapidly as the nerve regenerates.

Appropriate electrical stimulation of the gastrocnemius muscle of the rat results in a heavier and stronger muscle both during the period of denervation and recovery.

Appropriate electrical stimulation when started after re-innervation has occurred is without effect upon the subsequent course of recovery.

Therapeutic Relaxation

Ernst Schmidhofer, Commander (MC), U.S.N.R. In THE JOURNAL OF NERVOUS AND MENTAL DISEASE, 103:3:274, March 1946.

The term therapeutic relaxation is introduced to describe a form of psychotherapy as well as the psychologic state induced thereby. Its literal meaning, treatment through relaxation, is high in interest value to patients disturbed by tensions and insomnia. When the psychotherapist approaches patients with a confident and cheerful, "Come, I'm going to teach you how to relax by means of a method known as therapeutic relaxation. You are going to be pleasantly surprised," the phrase itself offers a strong positive emotional appeal.

Because the patients are psychologically conditioned to enter and leave the state of therapeutic relaxation

when they hear the commands to "Relax!" and to "Wake up!" the time required to induce and to remove the state is advantageously brief; thus, more therapy may be administered over a given period of time.

We do not persist in attempts at inducing therapeutic relaxation in acutely disturbed patients who are members of the new group. Such persistence usually is unsuccessful and it is preferable that failures be carefully avoided in group therapy, chiefly because of adverse effects from comments by the noncomformists.

It is unwise to force a psychotic man into a venture that he does not understand, for he is already too perplexed by or suspicious of normally insignificant routine happenings. It is believed, however, that coercion has its place in so far as the induction of therapeutic relaxation is concerned, provided the psychotherapist is free to give his undivided attention to the process.

Tissue Damage Due to Cold

Leiv Kreyberg, M.D., Major, Royal Norwegian Medical Corps; Professor of Pathology in the University of Oslo. In THE LANCET, 10:1:340, March 9, 1946.

Empirical experience has already established the principles of such treatment:

1. Avoid rapid heating and avoid rubbing.

2. Place the limb in an elevated position and observe carefully the vascular reaction. If the vascular response is rapid and fulminating, with raised temperature of the skin, the limb should be moderately cooled but not returned to an injurious low temperature with icepacks or similar treatment. Learmonth and Ungley (1943) have proposed a very simple and logical treatment, according to the principles accepted in this review: "to nurse these patients on their face, with feet and legs uncovered and elevated, by an open window in default of a fan."

3. Keep the skin aired and dry to avoid maceration of the epidermis. A macerated tissue is more easily penetrated by bacteria from the surface.

The changes which take place in the tissues during progressive exposure to cold and during subsequent warming are described.

The initial changes are purely physiological adjustment to cold, and it is not until exposure to cold has lasted some considerable time that the reaction of the tissues becomes pathological.

Three types of pathological reaction are described: (1) after a short exposure to moderate cold; (2) after freezing to ice and return to normal temperature; and (3) after prolonged exposure to moderate cold not involving freezing to ice (trench foot, etc.)

The underlying cause of all types of pathological reaction to cold is an acute aseptic inflammation.

Chorea

Joseph A. Johnston, M.D., Pediatrician-in-Chief, Henry Ford Hospital, Detroit, Michigan. In THE JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY, 45:2:204, February 1946.

Treatment

In a disease as variable in severity and duration as chorea, and in its pure form, carrying with it so small a chance of a complicating carditis, the results of treatment are difficult to evaluate. So striking, however, was the reduction in complications in Sutton and Dodge's follow-up of patients treated with fever induced by triple typhoid vaccine that we have felt it a duty to recommend this to all suitable cases. We have not used it when there was evidence of active carditis. Of twenty-five who received it, five developed carditis, but all of these had joint manifestations of rheumatic fever as well. In a few cases showing evidence of increased intracranial pressure, papilloedema and bradycardia, hypertonic glucose has seemed to have value. The Kettering hypertherm was tried but discontinued when it seemed to represent an exhausting experience, physically and emotionally.

We feel that chorea is a mild manifestation of the rheumatic state; that uncomplicated by joint manifestations, the likelihood of carditis is small. We feel that the treatment of the active state at present is best accomplished with fever therapy induced by triple typhoid vaccine. We feel that its development is largely conditioned by a poor nutritional background, and that our chief contribution as physicians lies in our insuring normal nutrition, not only by intelligent provision of the requirements for growth, but also by a careful exclusion of those things which interfere with the utilization of food.

Studies on Neuromuscular Dysfunction: Neostigmine Therapy of Chronic Disability Following Fractures: Report of 51 Cases

H. Kabat and C. W. Jones. In American Journal of Surgery, New York, p. 55, 71:1-166, Jan. 1946. Abstracted in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 130:14:970, April 6, 1945.

Kabat and Jones report on neostigmine therapy of 51 patients for neuromuscular dysfunction resulting from trauma. Twenty-three of the 51 patients had fractures of the upper extremity, 17 had fractures of the lower extremity, 7 had fractures of the vertebrae and 4 had multiple fractures. Excluding the disabilities which had been present longer than five years, the average duration of the disability was 11.2 months. Of 20 patients who were given daily injections of saline solution for one week as a placebo, only 2 showed improvement. Neostigmine was usually administered for two or three weeks. This treatment resulted in significant improvement in 39 of the 51 patients. Of the remaining 12, 4 showed slight improvement while the other 8 were without improvement. It has been possible to follow 27 of the 39 patients who showed significant improvement from neostigmine therapy for one to eight months after treatment was discontinued. In all except 1 the improvement was retained after cessation of drug administration. The therapeutic value of neostigmine in the treatment of chronic disability following fractures emphasizes the important role of neuromuscular dysfunction in these disabilities.

The Medical Career of Jean-Paul Marat

H. P. Bayon, M.D., In THE PROCEEDINGS OF THE ROYAL SOCIETY OF MEDICINE, 39:1:39, November 1945.

The "Friend of the People" has been considered an eminent physician or a low-down quack, according to whether the writer admires or condemns Marat's political activities from 1790 to 1793; for it was only then that he became known as the "tiger that would have drunk the blood of his mother from the skull of his father." Previous to these revolutionary years, Jean-Paul was a whole-hearted admirer of Jean Jacques Rousseau (1715-78) that is, a mild humanitarian—in theory. To obtain a complete picture, reference must be made to Marat's works on heat, light and electricity, since he was a keen scientific experimenter during most of his life.

Artificial Respiration

Julius H. Comroe, Jr., M.D., and Robert D. Dripps, M.D., Philadelphia. In THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 130:7:383, February 16, 1946.

Comparison of Schafer and Eve Methods. The data obtained show the complete inadequacy of the Schafer method in these two cases. The tidal air produced by the Schafer technic varied from 71.5 to 117 cc. (normal is 400 to 500 cc.) despite the fact that the motions used conformed closely to the approved technic. Two different operators (both experienced) were used, each weighing approximately 180 pounds. It is instructive to note that prone pressure applied to C.M. at a time when he was lying on a thin mattress produced only 75 cc. per cycle as compared with 117 cc. when the mattress was removed leaving only a hard plywood tilt table; too often artificial respiration is given to a mattress rather than to the patient.

On the other hand, the Eve tilting or gravity technic (with the patient tilted through an angle of 45 degrees in each direction) produced an adequate exchange of 286 to 500 cc. per cycle. No comparison of possible beneficial effects on circulation of the two methods was possible in this study.

These studies emphasize that artificial respiration, to be maximally effective, must not only raise blood oxygen to normal levels but must reduce blood carbon dioxide to normal levels. The original oxygen insufflation technic provides adequate oxygen but permits accumulation of narcotic concentrations of carbon dioxide; consequently it should not be employed for more than a few minutes without additional rhythmic manual compression of the chest. Tingley's plea for a much faster rate in artificial respiration for asphyxiated patients is probably justified; we do not believe that these unconscious patients require excessive amounts of oxygen, but it certainly is essential to reduce carbon dioxide to normal levels. There is no doubt that low levels of blood carbon dioxide may be harmful because of the resultant cerebral vasoconstriction, however, it is unlikely that any existing method of manual artificial respiration could produce enough hyperventilation in fifteen minutes to do harm. Excessive hyperventilation may of course result from the improper use of mechanical resuscitators.

The Effect of Daily Electrical Stimulation of Normal and Denervated Muscles Upon Their Protein Content and Upon Some of the Physicochemical Properties of the Protein

Ernst Fischer and Virginia W. Ramsey. From the Baruch Center of Physical Medicine, Medical College of Virginia, Richmond. In THE AMERICAN JOURNAL OF PHYSIOLOGY, 145:4:586, February 1, 1946.

Summary

Daily electrical treatment of denervated rabbit muscles is effective in retarding weight loss and deterioration of muscle protein. Treatment applied to a leg in flexed position, so that the muscle contracts against high resistance during stimulation, is much more effective than treatment in an extended limb position, in which the muscle contracts freely against no or little resistance.

With the same type of electrical stimulation, a training effect upon normal muscles was produced only if the stimulation was applied in the extended position. However, even under this condition, the training effect was restricted to an increase in muscle weight, and no changes in the protein composition became apparent.

Surgical Management of Acute Arterial Occlusion

Commander Gerald H. Pratt, Mc(S), U.S.N.R., New York. In THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 130:13:830, March 30 1946.

One of the most common causes for the occlusion of the artery of the upper extremity is a scalenus anticus syndrome with or without cervical rib. This may cause a thrombosis of the subclavian artery with the symptoms of numbness, weakness, change of color, absence of the peripheral pulse and at times ulcers or even gangrene. When there is pressure on the brachial plexus, symptoms may be more neurologic. At such times the symptoms are of anesthesia and paresthesia with tingling and pain, particularly on the ulnar nerve side of the hand. Treatment for this condition is scalenotomy with removal of any bony obstruction (if present), the rib being rongeured away.

When a foot is frostbitten, actual freezing of the tissues occurs. In the immersion or trench foot syndrome the foot does not actually freeze, but it becomes chilled, anesthetic and edematous. In trench foot, trauma from walking or standing on these injured feet is added.

When the part is warmed and the circulation is restored to these limbs, it rapidly warms the deep tissues, and the contiguous transmission of this heat to the damaged skin surface causes discoloration and bleb formation. The circulation in the skin has been more impaired by the cold, particularly the venous and lymphatic vessels, and it is unable to remove the increased arterial supply rapidly, and blebs and edema result. If continued, the skin breaks and death of the superficial tissues occurs with gangrene. This excessive vasodilatation of the part is probably due to the absorption of diseased tissue as the limb becomes warmer.

It was found early that patients themselves realized the danger of too rapid warming and return of circulation. The cooling or refrigeration treatment during this hyperemic stage consists in cooling, best applied by temperature controlled cradles or ice bags and electric fans. In one to six weeks this stage has subsided and the superficial tissues can again carry the circulation load.

Many have residual pain and stiffness of joints and unhealthy thin skin. Biopsies have shown that there is a subcutaneous fibrosis which causes the inability of the tendons to flex well. Collagen deposits around the nerve cause the pain. Physical therapy, high vitamin diets and encouragement help at this state.

Rehabilitation of the Disabled: A Sociological Study

Alexander Miller, M.B., F.R.C.S.Ed. Regional Consultant Orthopedic Surgeon, E.M.S., Scotland; Supervising Surgeon, Miners' Rehabilitation Center, Lanarkshire; Senior Assistant Surgeon, Orthopedic Department, Victoria Infirmary, Glasgow. In THE BRITISH JOURNAL OF PHYSICAL MEDICINE AND INDUSTRIAL HYGIENE, 9:1:7, January-February 1946.

Rehabilitation of the injured is not so much a method of treatment as a concept of treatment. It is an attitude of mind which is concerned with the surgical, psychological and sociological welfare of workers in industry.

The first essential step is to establish a sufficient number of traumatic centers for the segregation and treatment of the injured under unity of control. The staff of such centers should take an active part in all stages of rehabilitation of the patient. Rehabilitation is a continuous process beginning at the moment of injury. It entails

a very close contact between workshop and hospital.

Facilities for rehabilitation are required in every fracture department. Patients who need prolonged in-patient supervision should be transferred to a residential rehabilitation center in fresh air and country surroundings. For certain ambulant patients there is scope for the development of special daily centers, placed in industrial areas chosen for their accessibility, in which provision can be made for treatment on the principle of an eight-hour day. Such centers would provide meals and permit patients to return to their homes each night.

It is perhaps debatable whether or not special industries should have special rehabilitation centers, but there is ample justification for this in the final stages of treatment, as the requirements of industries may differ in regard to the hardening process immediately before the patients return to work.

Treatment entails a knowledge of the mental attitude of the disabled as well as of the physical handicap.

The Weak Back

Colonel A. B. Walter, R.C.A.C.C., Consultant in Medicine, D.G.M.S. Directorate, Ottawa. In THE CANADIAN MEDICAL ASSOCIATION JOURNAL, 54:3:255, March 1946.

One type of chronic strain is worthy of separate identification; it is the cause of "postural backache" and is of psychic background with the asthenic posture as a physical expression. The trunk is allowed to slump habitually into the position of least effort, the abdominal wall is used unduly for respiratory excursion and its muscles are kept relaxed for this purpose; the slack rectus fails to hold up the pubic arm of the pelvis and lumbar lordosis, often betokened by a "sway back," is the result. A lowered threshold of capacity and undue tendency to lumbar strain is the outcome; this may be a source of pain from no more effort than walking, or still more from continued standing, and its diagnosis is apt to be overlooked because no localized tenderness is found in the back. Its distinction from the other types of strain is important because while they are treated by rest this is amenable to treatment on opposite principles. Provided that the psyche is yet plastic, it entails correction of posture and of breathing habits, and retraining of the recti abdominis to properly elevate the pubic bones and lever back the lumbar spine into some semblance of straightness. For mechanical reasons such abdominal exercise should be given in the supine position.

Our present treatment of fibrositis consists in muscular relaxation by heat and rest in the acute stage, heat and directive massage in the chronic; and there seems little doubt that attainment of muscular fitness, whatever that is, increases the resistance of tissues to inroads of the disease.

Studies on Neuromuscular Dysfunction: Neostigmine Therapy of Chronic Spastic Paralysis From Cerebral Lesions

Herman Kabat, M.D., Ph.D., Senior Assistant Sanitarian and Charles W. Jones, M.D., Senior Assistant Surgeon, U. S. Public Health Service, Washington, D. C. In THE JOURNAL OF NERVOUS AND MENTAL DISEASE, 103:2:127, February 1946.

Summary and Conclusions

Neostigmine has been administered to 11 patients who had developed hemiplegia one to 31 years before. Definite improvement was observed in all of these cases and in a few of them, the improvement was marked. Improvement was retained after therapy was discontinued.

Eight patients who had suffered from hemiplegia for a period of six weeks to five months were treated with neostigmine. Acceleration of recovery of motor function was observed in a number of these cases.

Six patients with the spastic type of cerebral palsy were given neostigmine. Three children all showed significant improvement, while of 3 adults, aged 23 to 33 years, only one showed definite slight improvement from this therapy.

Three patients with the athetoid type of cerebral palsy (adults aged 20 to 31) all showed significant improvement from neostigmine therapy.

The Value of Massage in Rheumatoid Arthritis

Frank Hopkins, M.D., Hot Springs, Virginia. In VIRGINIA MEDICAL MONTHLY, 73:2:62, February 1946.

The myositis that accompanies chronic rheumatism and chronic gout is characterized by a generous cellular exudate which soon produces induration and requires much treatment for its dissipation; on the contrary, in the myositis of rheumatoid arthritis, there is a more or less noncellular exudate, which is circumscribed and more easily dissipated. The muscles seem especially sensitive and with the slightest infiltration are subject to painful spasm. Pain is a great factor and probably the greatest factor in undermining the patient's health and morale. Skillful and understanding massage will keep the pain in abeyance and thereby add the greatest boon to the patient's welfare.

As long as general massage is ordered without specific instructions to the operator relative to the pathology, massage will not have the place in the physician's armamentarium that it deserves.

If any muscle is found acutely inflamed, massage is postponed and moist heat is applied.

The form of massage used to dissipate the infiltrated areas is classified as friction or pressing and consists of the use of the tips of the three middle fingers or thumb, making gradually increasing pressure and applying circular movement. This is kept up until the operator feels the tissues give or relax, which means the treatment is effective. Whether the operation is to be carried further at this seance will depend upon the judgment of the operator. At this stage, it may be desirable to finish the treatment with effleurage and kneading (petrissage).

Proper massage in rheumatoid arthritis will help to keep the muscles free of exudates and thereby lessen pain and help to prevent contractures and make for a longer life of activity and freedom from complete invalidism.

Penicillin in the Treatment of Neurosyphilis

Paul A. O'Leary, M.D., Louis A. Brunsting, M.D., and Orville Ockuly, M.D., Fellow in Dermatology and Syphilology, Mayo Foundation, Rochester, Minnesota. In THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 130:11:700, March 16, 1946.

The administration of penicillin by the intravenous, intramuscular or intraspinal route, alone or in combination with fever therapy, both malarial and by machine, leads us to believe that penicillin alone is not capable of controlling the parenchymatous forms of neurosyphilis. However, in cases of the meningeal forms of the disease and in those in which there was a high degree of pleocytosis in association with asymptomatic neurosyphilis, the results thus far are encouraging.

Recent Significant Trends in the Care of Cerebral Palsy

Winthrop M. Phelps, M.D., Baltimore, Maryland. In SOUTHERN MEDICAL JOURNAL, 39:2:132, February 1946.

From all of the types of care which have been given thus far, definite indications of what is needed for these cases have been developed. These can be briefly recapitulated. The six cases each year in every 100,000 of population are classified as follows:

Total cases 7 per year

1 dies under 6 years old

—

6 permanent case load
2 feebleminded

—

Mentally normal 4
(1 very severe, homebound—needs custodial care and education
(2 moderate, treatable—need treatment and education
(1 very mild, no treatment necessary

Of the group of four mentally normal cases (per year in every 100,000 population) one is severe and home or institution bound. This case, although mentally normal, is too severe ever to be made capable of self-help or self-support and needs custodial care and education because of his normal mind. There are no proper facilities for these cases at present. It is very difficult to say what becomes of many of them.

The second group, the two of moderate degree, should have everything that can possibly be provided for them both in physical restoration and mental education.

The fourth child in this group of four is the very mild case, exemplified by the spastic hemiplegia, for example. His treatment may require surgery or a brace and perhaps simple exercises which can easily be carried out at home. He is capable of attending a regular school and presents almost no problem.

In conclusion, it can be stated that the general future for reclamation of cerebral palsy is much brighter as our knowledge of differentiation of the various types develops. It also clearly indicates that surgical and rehabilitation therapy (such as physical therapy, occupational therapy and speech therapy), and drugs will all play a definite but specific part in the various types.

Fractured Patella: An Analysis of 54 Cases Treated by Excision

R. Brooke, M.S., F.R.C.S. In BRITISH MEDICAL JOURNAL, No. 4441:232, February 16, 1946.

Discussion

Excision is advocated both for transverse and for comminuted fractures. The details of the operation and the after-treatment have been described before. It is difficult to understand why excision is accepted as a satisfactory measure in the case of comminuted fractures, but caution is shown in advocating its use in the transverse variety.

It must be appreciated that the injury is really a major injury to the knee-joint and, as in all such injuries, quadriceps wasting will be rapid. Quadriceps insufficiency develops during a period not of weeks but of days, and half an inch of wasting in a few days may take months of physical therapy to regain after the operation. For this reason early operation is essential—usually on the fifth day after the accident, or as soon as the skin over the operation site is sufficiently healthy. For a similar reason the patient must be got up early after the operation, and, if a wool splint is used, this can be done with impunity on the fifth or sixth day, the patient walking with two sticks or between two chairs, using his own quadriceps actively, but not at first bending the knee. Back splints or plaster must be avoided at all costs. Postoperative physical therapy is not as a rule necessary but may be used when required. The operation must be performed by the bloodless method.

Repair of Soft-Tissue War Wounds

Lt. Col. Benjamin W. Rawles, Jr., M.C., A.U.S. In ANNALS OF SURGERY, 123:2:219, February 1946.

Rehabilitation of the Lightly Wounded

The lightly wounded form a valuable potential reserve for the Army, and if the greatest possible number are to be salvaged for further duty in the Theater, rehabilitation requires careful attention. The further a soldier is evacuated from the front and the longer he is away, the more difficult it is to return him to duty. Lightly wounded casualties are not evacuated any further to the rear than is compatible with adequate treatment and the tactical situation. In the General Hospital in the Base, efforts are directed towards weaning the patient from crutches and cane and from an inside hospital bed as rapidly as his condition will warrant. He is required to wear his combat shoes instead of slippers as soon as possible, as they apparently greatly aid in his rehabilitation by giving his feet proper support. Special attention is paid to the conditioning of quadriceps muscles because of the disability that results from disuse atrophy. This is particularly a problem when the wounds involve only one extremity. Natural favoring of the part causes the patient to limp, which increases the atrophy of the muscle. The atrophy further exaggerates the limp and the more he limps the greater the atrophy becomes. This vicious circle is sometimes difficult to break. He is moved to a ward tent where he sleeps on a cot as soon as his wounds do not demand active attention. This is usually between two or three weeks after injury in the more lightly wounded. This move is deliberately made as a part of mental reconditioning that is often necessary for return to duty even though sufficient inside beds may be available. If a patient spends his entire period of convalescence in one place, he is apt not to be keenly conscious of the improvement he has made. This procedure also allows the more recently injured casualties who require active therapy to be concentrated in one place. When he is a little stronger, he is evacuated to the convalescent section of the hospital, where he hikes, drills, takes calisthenics, participates in athletic contests and performs other duties about the hospital on a graded basis depending on his physical condition.

Exercises for the Convalescent Bed Patient

G. Mosser Taylor, M.D., J. Wayne McFarland, M.D., and Anna Bond, Los Angeles. In ARCHIVES OF PHYSICAL MEDICINE, 27:2:89, February 1946.

It is obvious that many convalescents from surgical measures and from disease need absolute rest, but there does come a time when the patient must be encouraged to use the parts not involved by the lesion from which he is recovering. The exercises prescribed usually require modification to fit the physical condition as it has been affected by the disease or operation sustained.

The patient may be weak and consequently unable to put much physical force into the movements, but the

frequent effort of going through the motions will result in more perfect recoordination of mind and muscle. It is therefore all important for the patient to pay strict attention to what he is attempting to do, particularly during the relaxation phase. Only in this way can abnormal tensions be spotted and released.

Medical and surgical complications, such as phlebothrombosis, thrombophlebitis and pulmonary embolism, are best prevented by the use of routine exercises.

Patients are much better conditioned physically on discharge from bed rest if systematized exercises have been carried out.

The basic principles taught in this series of exercises are such that if the exercises are continued indefinitely at home they constitute a simple program of physical conditioning.

A series of twelve exercises is described for the convalescent bed patient.

The rationale for the various groups of exercises is outlined.

Refrigeration for Crushed Finger

Lyman Weeks Crossman, M.D., New York. In THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 130:10:667, March 9, 1946.

To the Editor:—In THE JOURNAL, Dec. 29, 1945, page 1296, an adverse reply is given to a navy lieutenant who inquired concerning his application of ice to a finger which had been crushed and nearly amputated. The theory contained in the reply seems fallacious, as cold preserves tissue by reducing its metabolism and diminishing the need for either arterial or venous circulation. It is also contrary to the unanimous experience in major surgery, such as the English adoption of refrigeration for crush injury of limbs, and the preservation of circulation or development of collateral circulation during weeks of icing (Mock; Nachlas; Crossman; Ottaway and Foote; literature by Allen, F.M.: Am. J. Surg. 68:170, May 1945). The only two minor cases which I have encountered have been successful, as follows:

An Italian laborer, aged 64, had his thumb nearly severed at the interphalangeal joint, the distal phalanx hanging only by a thin shred of skin. The physician who saw him for me in my absence inquired if he should complete the amputation, but I advised by telephone to place the hand in a basin of cracked ice. Four hours later the parts were united by suture without drainage. The thumb was kept in ice for twenty-four hours and then changed to ice bags, which were gradually withdrawn during four days. The result was a complete functional thumb except for ankylosis of the interphalangeal joint.

A girl, aged 5 years, had her left ring finger chopped off with a hatchet. The cut was through the middle phalanx, and here also nothing but a thin bridge of skin remained. When I first saw the patient six hours after the accident, the severed part appeared very cyanotic and cadaveric. After suture, the finger was packed in ice for thirty-six hours by a unique method. The mother cut a hole in a rubber fountain syringe, so that the child's hand could be inserted and surrounded with ice, while the melting water drained out through the tubing into a pail on the floor. During the following days the important principle of gradual elevation of temperature was applied by using ice bags which were successively withdrawn. The outcome has been a perfect finger except for limitation of motion in the distal phalanx, which observers expect to be lessened by exercise and time.

It appeared improbable that the digit in either of these cases could have been saved by customary measures. As it is unreasonable to expect invariable success with any method, it seems proper to ask the lieutenant's critics whether any of them have any personal experience with reduced temperature or whether they know of any instance of deleterious effects from its proper use.

The Functional Anatomy of the Shoulder Girdle

Daniel P. Quiring, Ph.D., and Erna L. Boroush, Cleveland. In THE ARCHIVES OF PHYSICAL MEDICINE, 27: 2:96, February 1946.

In discussions of the human shoulder girdle two features are frequently overlooked: the evolution of the girdle and its dual function. The first throws light on the adaptive nature of the girdle. The second involves the girdle's ability to maintain a fixed position by rigid bracing when the muscles concerned serve as mechanical struts and the girdle's flexibility when movement is desired. The purpose of this paper is to develop these two aspects.

Summary

1. The shoulder girdle is the result of a long evolutionary process. In each certebrate class it adapts the animal for particular functions.

2. The girdle is associated with the axial skeleton through the sternoclavicular articulation. The clavicular and scapular parts are associated through the acromioclavicular articulation.

3. Muscles of the girdle receive their innervation from the eleventh cranial nerve and from the cervical and brachial plexuses.

4. The arterial supply to the girdle is furnished by branches of the axillary artery.

5. The muscles activating the girdle fall into three natural groups: (a) those uniting the girdle with the trunk, (b) those uniting the girdle with the upper arm, (c) those uniting the scapula with the forearm.

6. Injuries of the shoulder girdle occur most frequently at the clavicle. Fracture of the clavicle is more common than dislocation.

Circumscribed Post-Traumatic Osteoporosis of the Lower Ends of the Radius and Ulna

Joseph Buchman, M.D., Diplomate of the American Board of Orthopedic Surgery, New York, New York. In THE AMERICAN JOURNAL OF SURGERY, 71:2:272, February 1946.

It therefore appeared to the author that the patient was suffering from a diffuse post-traumatic osteoporosis of the entire carpus and adjacent bone structures superimposed upon a previously existing circumscribed post-traumatic osteoporosis of the semilunar bone, otherwise known as Kienboch's disease.

Immobilization in a circular plaster of Paris bandage from the metacarpophalangeal joints to the elbow was advised and applied from time to time over a period of eighteen months from the date of the accident.

Radiographic examination made on April 28, 1942, demonstrated that the diffuse punctate osteoporosis had disappeared.

Gradual mobilization of the wrist and physical therapy were advised and instituted. A further roentgenographic study two years after the accident demonstrated the above described changes more clearly. Clinically, however, there were residual changes such as pronounced limitation of motion, pain on extremes of motion, tenderness and weakness which were indicative of arthritic changes. The prognosis was therefore poor even though the diffuse post-traumatic osteoporosis had subsided.

Orthopedic Lessons of the War

W. Rowley Bristow, F.R.C.S. Late Brigadier, Consultant in Orthopedic Surgery to the Army. In JOURNAL OF THE ROYAL ARMY MEDICAL CORPS, 85:6:275, December 1945.

Early Movement

Many surgeons are still not convinced that early knee movement is necessary in treating a fractured femur, but there can be no two opinions about its value in the management of injuries of the fingers and hand and, to a less extent, the foot.

There has been a great advance in treatment, both in the British and American Armies, from the appreciation of the fact that a splinted hand is likely to become a stiff and useless hand. It was common in the early days of the war to meet with hands immobilized in plaster following a fracture of a metacarpal or a phalanx. It was routine to immobilize the foot and leg following a fracture of the os calcis.

A fractured third metacarpal, for instance, splinted as it is by a normal bone on either side, requires protection but surely not an arm and hand and fingers encased in plaster of Paris. Yet this was a common phenomenon in the early days of the war.

The gospel of early movement for the hand and fingers was finally recognized and its appreciation has saved many limbs from long hospitalization and from disaster. It is one of the lessons which the orthopedic surgeons preached incessantly. In some hospitals when a patient left with his arm in plaster following an open fracture of the elbow, written on his plaster were the words: "Keep your fingers moving."

It should be put on record that the masseuses who served overseas played a big part in helping to carry out this policy of early movement and rehabilitation. The massage corps did grand work. They stimulated and encouraged patients to try to use their muscles and joints in a way which the overworked medical officer could not do, and just as the Nursing Sisters are deservedly praised for their work in forward areas, so should the physical therapists work be equally acknowledged.

Early movement improved the results of the os calcis fracture, never so common as in this war as the result of mine explosions. In the Centers, plaster fixation was generally given up and replaced by rest with the foot elevated on a Braun's frame for four weeks, with the fracture reduced as far as possible, and movement of the forefoot and midtarsus encouraged. No weight-bearing for some sixteen weeks became the standard method. Under the fixation scheme the disability of the fracture was complicated by the adhesions and joint fixation of the whole of the tarsal joints.

Physical Rehabilitation after Injury to the Spinal Cord: Report of Case with Details of Procedures

In PROCEEDINGS OF THE STAFF MEETINGS OF THE MAYO CLINIC, 21:5:101, March 6, 1946.

Before measures are used to rehabilitate patients who have disabilities of this nature the height of the lesion, decubital ulcers and spasticity are considered carefully.

When only the muscles of the arms and shoulders function normally and those of the trunk function little, if at all, it is difficult to brace the patient so that he can walk. Strengthening of arm. hand and shoulder muscles may enable such a patient to assist in hoisting himself out of bed to a wheel chair and back again, to push the wheel chair around and to get onto the toilet stool from a wheel chair with little help. Patients who have good muscles in the arms, shoulders and back and good posterior abdominal muscles, particularly the quadratus lumborum, although they may not have use of the remainder of the abdominal muscles, can be taught to walk fairly well with the use of crutches.

Simple reconditioning exercises are used at first for a few moments twice a day. This period is increased gradually to two to five hours a day and the strenuousness of the exercise also is increased gradually. First, patients are taught to roll from side to side. Then arm strengthening exercises are given; exercises against resistance by means of weights on pulleys and stall bars are employed. When sufficient strength has been recovered, the patient attempts to raise his trunk from a prone position to a crawling position and then to crawl by shrugging the hips forward in order to develop the lateral abdominal and quadratus lumborum muscles. These muscles are necessary for walking. Crutches that are shortened to almost one-half length then are used by the patient while he is in the sitting position with legs extended on a mat. He is taught to raise the weight of the trunk with his arms and to shrug the hips and push the legs forward or backward. The exercise further develops ability to shrug the hips. This training accustoms the patient to the crutches, teaches him how to place them and how to turn on them without any danger of falling. When sufficient strength has been developed, the patient practices rising from a supine to a sitting position.

Comment

Rehabilitation of a patient, who has been confined to bed, to the extent that he can walk across streets requires hours of hard work and patience on the part of those entrusted with the training involved and includes hours of hard work and fortitude on the part of the patient. Those treating him must have special knowledge of the function of muscles and exercise. The patient cannot be handed a pair of crutches and braces and be told to walk. Neither is it possible to instruct the family or the parents of the patient in two or three hours and expect them to accomplish much at home. The total time required to make these patients relatively more independent is not too great after their physical condition reaches the stage at which training can be started. The patient we presented was walking fairly well at the end of eight weeks and was under treatment at the Clinic approximately eleven weeks. If at the end of three to four weeks, a patient has not made progress, treatment is not continued further. It undoubtedly will not be possible to do as much in every case of injury to the cord as has been done with the one presented. However, if similar results can be obtained with patients of equal disability, the time spent is justified. It ought to be further emphasized that many of these patients need not be hopeless burdens on their families and society. Many of them undoubtedly can be made happy useful citizens.

Dysmenorrhea and Physical Education

Franz Schuck, M.D., New York. In ARCHIVES OF PEDIATRICS, 63:1:22, January 1946.

The psychological treatment plays by far the greatest role in the routine of schools, colleges and organizations which deal with large numbers of young women, such as industrial organizations and the women services of the armed forces. It is noteworthy that the psychological handling of dysmenorrhea is advocated by experienced women physicians, some of them responsible for the medical service of large units.

Altogether, physical exercise of girls, children, adoles-

cents and young adults does not cause pelvic damage for their later lives, nor does it cause conditions for later dysmenorrhea. There is no clinical material to prove or even to suspect it.

Yet physical corrective work leads inevitably to certain methods and systems. This is due to the nature of the work, for actually every keen instructor, who works on a large material, has individual experiences and comes to his own methods. From time to time, a method spreads and is considered superior to all others, for a while. This trend is far older than are the recent efforts against dysmenorrhea. It was well-known, for instance, in the orthopedic corrective work for scoliosis. Later, many general "gymnastic systems" in Europe were considered infallible in their power for body improvement.

Vigorous physical activity increases any bleeding, and the uterus makes no exception.

Briefly, the physician does not understand why sports and physical education should take chances with a physical complication which medicine is eager to dodge for very good reasons. To him, the routine excuse of menstruating students seemed a highly sensible measure. He knew it was unnecessary for some and exploited by some. Still it was the safest means of securing the students, the physical educators and the responsible administrations.

The only secure way in which the physician could take care of the multiform conditions of menstruation and dysmenorrhea was to exclude them from exercise altogether. No other general regulation is safe objectively. The physician cannot advise with the same soundness: The students should be excused "for two days" or "for three days." All such regulations are compromises, unnecessary for some, insufficient for others.

The sports leaders, as well as the physician, should be aware of the value of psychological conditioning but also of the enormous complexity of dysmenorrhea.

Spontaneous Recovery of Muscle Following Partial Denervation

Paul Weiss and Mac V. Edds, Jr. From the Department of Zoology, The University of Chicago. In THE AMERICAN JOURNAL OF PHYSIOLOGY, 145:4:606, February 1, 1946.

Incomplete denervation of muscles in the rat was found to be followed by "spontaneous" recovery not attributable to regeneration of the severed nerve fibers. This recovery was studied quantitatively by following the weight, strength and histological changes in the muscles and comparing them with the residual nerve supply.

From the knowledge of the size of the denervated fraction and of the amount of atrophy following total denervation, the expected weights of muscles partially denervated for various periods could be computed. Except for the first week, the weights actually observed were much higher than calculated; that is, the denervated portion of a partially intact muscle atrophies less than it would if the muscle were completely denervated. Within a few weeks, atrophy is checked and the muscle gradually returns to nearly its original size.

Histological study showed a progressively increasing number of muscle fibers recovering normal size after some initial atrophy. Four months after the denervation of 80 per cent of the muscle fibers, only 5 per cent were still in an atrophic (i.e., denervated) state. At no time was there evidence of hypertrophied fibers.

All observed facts lead to the conclusion that the intramuscular branches of the intact motor nerve fibers undergo additional branching and take over the supply of the denervated muscle fibers. This occurs only when intact and denervated elements lie intermingled; the stimulus for branching lies presumably in some traumatic contact action, and no "neurotropic" stimulation of branching or "attraction" of branches toward a solid denervated area has been noted.

The results suggest that similar compensatory branching with consequent improvement of muscle weight and strength might occur after diffuse poliomyelitic lesions, but not after partial traumatic injury.

Development of High Educational Standards by the Medical Profession

Ray Lyman Wilbur, M.D., Stanford University, Calif. In THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 130:16:1055, April 20, 1946.

Up to certain point it will be necessary for us to give about the same training to those students who are to enter the field of psychiatry as that of our other medical students; but there seems to be no good reason why we should give elaborate training in surgery and the various specialties at least during the latter part of their medical course and perhaps the intern period to such students.

Along with the training in psychiatry we must follow out a regular campaign to control and protect the insane, so that they will be handled from the standpoint of medicine rather than that of jurisprudence. When human beings begin to slip mentally their first contact should not be with the policeman but with the highly skilled staff of a mental institution, and at first on a voluntary basis. Our high speed civilization is full of perils and penalties. One of our present peculiarities is to try to increase materially the unoccupied or idle time of our fellow citizens. This has always struck me as an unwise procedure. It is just as unwise to have too much time to waste as it is to have too many hours of work. Sensible recreation is a matter of sound living. Uninhibited human beings in the presence of the emotional stimulation of such things as the theater, motion pictures and the races and with free access to alcohol and habit forming drugs will provide many unhappy patients for the psychiatrist, who will need to guide them to an adequate social adjustment.

The Initiation of Sweating in Response to Heat

E. F. Adolph. From the Department of Physiology, School of Medicine and Dentistry, The University of Rochester, Rochester, New York. In THE AMERICAN JOURNAL OF PHYSIOLOGY, 145:5:715, March 1, 1946.

Summary

1. Rates of evaporative loss were measured in men initially exposed to hot dry air (122 F., 10 per cent humidity). A probable increase in rate of evaporation due to sweating, amounting to 2½ fold, occurred within the 5 minutes before the men could be weighed.

2. The measured acceleration began at 7 minutes in one subject and 12 minutes in another subject. The rates rapidly increased to a maximal rate of 10 fold above that in a cool atmosphere, which was attained in 20 minutes.

3. It is concluded that the promptness of onset of sweating among individuals is no indication of their tolerances or acclimatization to heat.

4. The slow onset of full sweating suggests that the stimulus required is an appreciable increase in the heat content of the body as a whole.

Physical Reconditioning After Rheumatic Fever

Peter V. Karpovich, M.D., Randolph Field, Tex.; Lt. Col. Merritt P. Starr, Capt. Robert W. Kimbro, Major Charles G. Stoll, M.C., A.U.S., and Capt. Raymond A. Weiss, Air Corps, A.U.S. In JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 130:17:1198, April 27, 1946.

There is a great deal of diversity in AAF hospitals regarding the management of the period of convalescence after rheumatic fever. It varies from a prolonged restriction of physical activities to an early participation in special exercise which often may require a great deal of exertion. This difference in attitude regarding physical activity can be explained easily. On the one hand, it has been a medical tradition, based mainly on observation among children, that rest is an essential part of the rheumatic fever regimen not only during the active stage of the disease but also during a long period of time afterward. On the other hand, accumulated experience with rheumatic fever has indicated that this disease affects adults in a lesser degree than children, and therefore the management of the patients in the two instances may not be the same. Moreover, the present attacks on the "abuse of bed rest" in the treatment of various diseases, including those of the heart, have led to the question whether a prolonged period of physical inactivity during convalescence after rheumatic fever is beneficial or not.

The need for some practical tests for determination of the physical fitness of patients convalescing from rheumatic fever has been recognized before. Swift and McEwen started physical reconditioning of patients convalescing from rheumatic fever by allowing them to sit in a stationary chair for a progressively increasing length of time. After the patients had become accustomed to sitting most of the day, they were permitted to make short walks in the ward. "The first walk consisted of about 50 feet, the second either the same amount or double that, the third about 100 feet, and then the amount is increased slowly according to the patient's response." Wilson described a set of arbitrary tests consisting of dumbbell swinging and stair climbing. As criteria for appraising the degree of fitness she used the color of the face, the degree of dyspnea and the type of systolic blood pressure curve plotted from determinations made at frequent intervals after exercise.

Our purpose in the present study was to apply certain physical fitness tests to the patients convalescing from rheumatic fever in order to determine (*a*) how soon after clinical subsidence of the disease a patient can safely participate in physical training and (*b*) how much time is required in order to regain the degree of physical fitness necessary for limited and full military duty.

Summary and Conclusions

1. Study was conducted on 88 men convalescing from rheumatic fever in an Army Air Forces hospital.

2. Patients participated in a graded program of physical training.

3. The time of beginning and intensification of training were controlled by a series of physical fitness tests.

4. It was found that these tests constituted a simple and safe method of control over physical reconditioning of the patients and furnished objective data when a patient was brought before the Disposition Board for discharge from the hospital.

5. It was found that patients convalescing from rheumatic fever could safely participate in a graded system of physical exercises within two weeks after clinical cessation of the pathologic rheumatic activity.

6. The conventional delay in the beginning of physical reconditioning was reduced from 77.3 days to 16.2 days without causing an increase in the incidence of cardiac damage during six to twelve months of observation.

7. There was no relationship between the abnormal erythrocyte sedimentation rate area during the disease and the time necessary to obtain a "fair" score on the progressive test.

Penicillin Combined with Fever Therapy: A Preliminary Report of Twenty Cases of Early Syphilis

Robert H. Craig, M.D., George X. Schwemlein, M.D., and H. Worley Kendell, M.D., Chicago, Illinois. In ARCHIVES OF PHYSICAL MEDICINE, XXVII:4:222, April 1946.

The available literature offers few reports concerning penicillin-fever therapy. Barksdale stated that penicillin combined with fever therapy was being satisfactorily used in cases of neurosyphilis. Struble and Bellows reported on the favorable result obtained by the application of penicillin-fever therapy in a case of iridocyclitis of gonorrheal origin which had not responded to penicillin alone. Riba and coworkers applied the cabinet type of therapeutic fever and penicillin to gonorrhea complications which had not responded to penicillin alone with encouraging results.

Summary

1. Preliminary evidence is presented to demonstrate that penicillin and physically induced fever may be safely combined in the treatment of early syphilis as described.

2. Penicillin-fever therapy as compared to arseno-bismuth-fever therapy was more comfortable for the patients.

3. Blood penicillin activity during penicillin-fever therapy was variable before and during this form of therapy, while none was detected on the two consecutive mornings after fever therapy.

4. The use of 600,000 units of penicillin plus three hours of fever at 106 F. (rectal) is inadequate treatment for early syphilis.

5. The use of 1,200,000 units of penicillin plus three hours of fever at 106 F. (rectal) is encouraging enough to warrant further study of the use of penicillin-fever therapy in early syphilis.

Treatment of Sciatica with Alternating Current

Abraham Cohen, M.D., Francis P. Naselli, B.S., and Marie P. Craig, B.S., Philadelphia. In ARCHIVES OF PHYSICAL MEDICINE, XXVII:4:219, April 1946.

The term sciatica is usually applied to any condition characterized by pain in the lower back radiating down one or both legs. This distressing symptom complex sometimes incapacitates the patient for weeks or even months. Any procedure that will help to alleviate the suffering caused is desirable.

It is not within the scope of this paper to delve into the various etiologic factors in sciatica. One can obtain information concerning these from any good textbook on the subject. However, it should be remembered that the method suggested is not intended to replace surgical intervention, physical therapy or drugs. Its purpose is to add to rather than subtract from the already long list of procedures for the treatment of sciatica.

Our criteria for the diagnosis of sciatica are as follows:

1. Pain and tenderness along the course of the sciatic nerve.
2. Diminished patellar reflex on the affected side.
3. Presence of the Lasègue sign.

Although the method to be described is not new, having been suggested by others, we wish to emphasize its efficacy, since use of the alternating current is simple and free from danger and can be carried out in the physician's office.

When the maximum current is applied there is a contraction of the muscles of the limb with a minimal amount of discomfort. Relief usually is obtained immediately and may persist for a few days; however, treatment usually is administered every other day until relief is complete. In acute cases, such as those in which sciatica accompanies back strain, relief may be complete after two or three treatments. In the more chronic types, treatment requires a longer period. In either type a measure of relief is assured regardless of the cause. Thus far some 25 patients have been treated by the method.

Summary and Conclusions

1. The alternating current is a simple, safe procedure for the treatment of sciatica.
2. Twenty-five patients were treated successfully without being confined to bed.
3. The patient becomes ambulatory almost immediately.
4. The method is simple enough to be carried out in any physician's office.

Typical Headache of Essential Hypertension: Etiologic Considerations and Report of New Form of Therapy

A. A. Steiner. In Medical Annals of District of Columbia, Washington—p. 531, 14:531-582, Dec. 1945. Abstracted in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 130:11:745, March 16, 1946.

On the premise that recumbency seems to favor production of the cephalalgia, Steiner instructed patients to elevate the headposts of their bed on 10 inch high blocks. Of 12 patients in whom elevation of the head of the bed during sleep was employed, 10 obtained dramatic relief of their complaint. Four patients required oral ergotamine therapy and obtained complete relief after a week's course of medication. In only 1 case was there partial failure. This patient was unable to sleep with more than 5 inch elevation of the head of her bed. Nicotinic acid was prescribed in several cases on the hypothesis that this headache, like migraine, is of a primary vasoconstrictor type. It was without value. Phenobarbital and thiocyanates were used prior to institution of the present therapy.

Effects of Massage on Denervated Skeletal Muscle

Mitzi I. Suskind. M.S., Norma M. Hajek, B.A. and H.M. Hines, Ph.D., Iowa City. In ARCHIVES OF PHYSICAL MEDICINE, 27:3:135, March 1946.

Summary

Experiments concerning the influence of massage on muscular atrophy and neuromuscular regeneration were carried out on denervated gastrocnemius muscles of cats. Massage caused only a slight retardation of the weight loss but proved to be effective in maintaining the strength of denervated muscle. Electrical stimulation retarded weight loss but exerted no effect on the contractible strength per unit mass of muscle.

Effect of Postoperative Exercises and Massage on Incidence of Pulmonary Embolism at Chelsea Hospital for Women

J. P. Erskine and I. C. Shires—p. 480. In JOURNAL OF OBST. & GYNAEC. OF BRIT. EMPIRE, MANCHESTER, 52: 417-544, Oct. 1945. Abstracted in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 130:8:540, February 23, 1946.

At the beginning of 1937 a massage department was established at the Chelsea Hospital for Women. The members of the massage team were to instruct and supervise postoperative exercises and to carry out massage in all cases after abdominal operations and operations for the repair of genital prolapse. The incidence of fatal embolism decreased by more than 50 per cent during the seven year period subsequent to the introduction of the massage and exercise procedure.

The Copper Ionization Treatment of Fungous Infections

William J. Lahey, Lt. (MC) U.S.N.R. and James E. Byrnes, Comm., (MC) U.S.N.R. In UNITED STATES NAVAL MEDICAL BULLETIN, 46:4:557, April 1946.

In this series only those patients with moderate to severe involvement of the feet and/or hands were treated. The types of infection handled were two: i.e., the common interdigital, with and without extension, and the dyshydrotic or thick-walled blister types. Cases with secondary infection are not included. All but two cases were managed as outpatients.

No reactions ascribable to copper sensitivity were encountered. Several patients initially developed transient follicular rashes at the points of application of the indifferent electrodes, but these in no case persisted or recurred.

Conclusions

1. Our experience indicates that the copper ionization bath is a safe and valuable method of treatment of fungous infection of the types described.
2. An appreciable number of cases shows persistent scaling or fissuring of the skin despite disappearance of all acute signs. These require the supplementary use of keratolytic agents to complete the healing process.
3. The method possesses certain advantages over the usual forms of therapy. Chronic cases are generally benefited. The vexing problem of "overtreatment" is by-passed. The procedure is simple and uniform in its application. The apparatus necessary is easily constructed from scrap material and requires little servicing. The over-all cost of treatment is minimal.

These factors are of particular significance in military medicine.

Book Reviews

Diary of the Ship's Surgeon: Being the Diary of a Ship's Surgeon on a Voyage to the Orient Just Before Pearl Harbor. *By R. G. M. Ehlers, M.D. Cloth. Price, $1.50. Pp. 182, with 1 portrait. Boston: Meador Publishing Company, 1944.*

This is the diary of a ship's surgeon of the S. S. Tyler of the American President Lines sailing from Wilmington, California, August 20, 1941, to Penang and return November 22. It is interesting and easy to read for anyone, as it contains little reference to medicine or surgery.

Back to Life: The Emotional Adjustment of Our Veterans. *By Herbert I. Kupper, M.D., Staff Psychiatrist, U. S. Marine Hospital, Ellis Island, New York. With a foreword by Dr. Robert H. Felix, Chief, Mental Hygiene Division, U. S. Public Health Service. Cloth. Price, $2.50. Pp. 220. New York: L. B. Fischer Publishing Corp., 1945.*

The material in this book represents the opinions of the author who has spent the past three years with service men in the Coast Guard, Maritime Service and Merchant Marine. The psychology of the fighting man has never been neglected, but the psychology has been overlooked, inadequately understood or casually misinterpreted.

The inner wars of thousands of individuals in the competitive arena of civilization are supposed to be fought and won without help. It is small wonder that the civilian population can never comprehend the personality which their relatives are undergoing in the transition from war to peace.

This book has to do with that transition as the men themselves and their families must work their way through it. It relates the reasons for some of the veterans' difficulties and the ways in which readjustment can be more readily and more successfully made.

The author uses actual case histories of typical veteran adjustment difficulties and thus gives valuable suggestions of treatment and attitudes by which the family can help its ex-soldier recover his emotional stability. It describes simply in nontechnical language the psychological changes that military discipline forces on the civilian turned soldier. Also how the contrast between his rigidly controlled army life and the sudden pressures of home responsibilities creates confusion in his feelings and ideas.

It is recommended to fathers, mothers and wives of the returned veterans because it enables them to deal with causes instead of symptoms and will enable them to discover the man they remember in the irritable stranger war has returned to them.

Endurance of Young Men: Analysis of Endurance Exercises and Methods of Evaluating Motor Fitness. *By Thomas Kirk Cureton, Warren J. Huffman, Lyle Welser, Ramon W. Kireilis and Darrell E. Latham. Monographs of the Society for Research in Child Development, Volume X, No. 1 (Serial No. 40). Paper. Price, $2.50. Pp. 284, with 46 charts. Washington, D. C.: Society for Research in Child Development, National Research Council, 1945.*

As Cureton states in the preface of this excellent and unusual monograph, "Human endurance is a fascinating challenge for scientific analysis." The recent war once again emphasized the need for physical fitness tests. Differences of opinion as to the type of the test to use, what exercises to select have always been more or less a matter of empiricism. Scientific research has lagged far behind the trial and error methods so frequently used. The author felt that the need for investigating endurance exercises was so real they instituted their program of research reported in the present monograph. This study represents the first attempt to analyze statistically a group of exercises which involves every principle muscle group in the body for objective verification of the muscle groups which work together. Standard score per cents are recommended as an index for improvement findings. The six sigma standard score scale establishes a ladder of performance which has equally spaced steps and permits events which are scored in different units to be compared. Each of twenty-eight exercises is analyzed in turn with the whole series presented in chapter two. The study as a whole indicates the great relative importance of muscular endurance events in physical fitness work.

For anyone interested in the subject of physical fitness this monograph is an absolute essential.

Surgical Treatment of the Nervous System. *Edited by Frederic W. Bancroft, M.D., A.F., F.A.C.S., Associate Clinical Professor of Surgery, Columbia University, New York, and Associate Editor, Cobb Pilcher, M.D., F.A.C.S., Associate Professor of Surgery, Vanderbilt University School of Medicine, Nashville, Tennessee; Visiting Surgeon, Vanderbilt University Hospital. Cloth. Price, $18. Pp. 534, with 293 illustrations. Philadelphia: J. B. Lippincott Company, 1946.*

This book of 534 pages written by 17 of the most distinguished neurosurgeons is a most valuable addition to the library of those for whom neurosurgery is not a daily task. Its compactness and the clearness of description which is maintained all through the book make it easy reading and it should be extremely valuable for those who want to be brought up to date in this field. The first section deals with cranial and intracranial surgery. After an introductory chapter on general principles of neurosurgical technic, chapters are devoted to the surgery of internal hydrocephalus, craniocerebral trauma, cranioplasty, brain abcess and osteomyelitis of the skull. Section two deals with cranial and intracranial surgery of tumors and contains chapters on tumors of the skull, the meninges, the cranial nerves, the cerebrum, the hypophyseal region, the cerebullum and brain stem and a chapter on vascular anomalies of the brain. The third section deals with cranial nerve disorders, involuntary movements and epilepsy. In section four the surgery of the spinal cord is described, while sections five and six treat the surgery of the peripheral nerves and the sympathetic nervous system. A final section deals with chemotherapy in neurosurgery.

The physical therapist will find in this book what neurosurgery can offer the patient, and he or she will find a number of opportunities where physical therapy can be of service in the aftercare of the patient.

The Physiological Basis of Medical Practice. *By Charles Herbert Best, M.D., D.Sc., F.R.S., F.R.C.P., Professor and Head of Department of Physiology; Associate Director, Connaught Laboratories; Research Associate in the Banting-Best Department of Medical Research, University of Toronto, and Norman Burke Taylor, M.D., F.R.S., F.R.C.S., F.R.C.P., M.R.C.S., L.R.C.P., Professor of Physiology, University of Toronto. Fourth Edition. Cloth. Price, $10. Pp. 1237, with over 500 illustrations. Baltimore: The Williams and Wilkins Company, 1945.*

The fourth edition of this well known textbook of physiology hardly needs an introduction. Be it enough to say that the excellence of previous editions has been maintained and has been brought up-to-date. The chapter on intracellular oxidation has been rewritten. Considerable change has occurred in the make-up of the book. It is now printed in double column pages which has necessitated changes in size for some figures.

Ever since its appearance in 1937 "Best and Taylor" has become the meat and substance of the physiological education of countless young physicians. The rapid succession of new printings and new editions of this book prove its value for the student of medicine and allied fields.

Howell's Textbook of Physiology. *Edited by John F. Fulton, M.D., Sterling Professor of Physiology, Yale University School of Medicine. With the collaboration of Donald H. Barron, John R. Brobeck, Robert W. Clarke, George R. Gowgill, William U. Gardner, David I. Hitchcock, Harold Lamport, David P. C. Lloyd, Leslie F. Nims, and Theodore C. Ruch. Fifteenth Edition. Cloth. Price, $8. Pp. 1304, with 507 illustrations. Philadelphia: W. B. Saunders Company, 1946.*

This textbook of physiology makes a most valuable contribution to all students of physiology. The editor, Doctor Fulton, has revised this well known and valued text so that it is difficult to recognize it as the same volume. The book is divided into ten sections. Each section is edited by a man well known in that particular field of work. The section on muscle and nerve physiology has been rewritten by Doctor Lloyd of the Rockefeller Institute for Medical Research. The section on the central nervous system by Fulton has been largely revamped except for the passages on the labyrinth and the cranial nerves. Sensory physiology has been presented by Ruch in clinical terms so that the large volume of clinical literature on sensory problems can be understood not only by the physiologist but also the clinician. Barron, Lamport and Fulton have presented cardiovascular physiology on novel lines. Hoff has interpreted the problem of excitability and conductivity of cardiac muscle in the light of modern electrophysiology. Aviation medicine has been well covered under the section on respiration. The physiology of sex has become a precise science and the entire section on this phase of physiology has been rewritten by Gardner of Yale.

Fulton, the editor, states an attempt was made to keep the text within reasonable limits and at the same time to preserve the general character of Howell's book. This has been achieved and the fluent prose for which Howell was famous has not suffered.

Nearly one-half of the text is devoted to nerve, muscle and sensory physiology. For those students interested in this particular field this section alone will fill a long felt need. Circulation of the blood covers approximately 300 pages; respiration, 100 pages; body fluids and kidney, 45 pages; physiology of digestion, 100 pages; metabolism and nutrition, 100 pages; and the physiology of reproduction, 75 pages.

The book is well written, profusely illustrated and recommended as an excellent text particularly for those interested in the physiology of nerve, muscle and sensory organs.

The Herbal of Rufinus. *Edited from the Unique Manuscript by Lynn Thorndike, Professor of History, Columbia University, New York, assisted by Francis S. Benjamin, Jr. Cloth. Price, $5. Pp. 476. Chicago: University of Chicago Press, 1945.*

This volume is the first of a series of medieval scientific texts sponsored jointly by the Medieval Academy of America and the University of Chicago. Rufinus has been called "the forgotten botanist of the thirteenth century." He not only compiled the writings of seven other authorities on botany and materia medica but added a large amount—about one-fifth of the manuscript—of independent information, largely botanical based on his own observation and experience.

Rufinus composed his herbal not long after A.D. 1287. Although this manuscript is not his original, part of it seems like thirteenth-century writing. The publication of this late thirteenth Latin work of Rufinus on herbs—the first printing from the only extant manuscript—should do much to raise the repute of the botany of the Middle Ages, and to a less degree, of medieval medicine.

Rufinus practiced medicine himself and experimented with the effects of herbs. Pestilence and epidemic, which were to bulk so large in medical literature of the fourteenth century, are hardly noted, pestiferous bites being a matter of more concern. Rufinus worked cures with an ointment made of powdered marble and honey as recounted in his chapter on unguents. The stories which he tells of practices by the women of Salerno are repeated from his authorities, but he gives other prescriptions, experiments and treatments by other members of the same sex. "A very good experiment for spleen" was employed by a certain lady. She took mallow and axle grease, cooked them in water, and made a poultice and applied it over the spleen, after which she annointed the area. Then she filled a sack with the sediment from a smith's grindstone which is found in the vessel of water placed under the revolving stone. This she heated and applied hot over the spleen, followed by the application of leeches and cupping-glasses over the spleen, and by further bleeding from the hollow of the foot and left hand.

Less successful was the following prescription by a female, which Rufinus learned of when at the University of Bologna. An old wife promised to cure a boy of twelve of tertain fever if he would trust her. She gave him the juice of wild cucumber to drink, and by dawn he was dead. The old wife was thereupon burned to death by order of the podesta of Bologna.

In addition to its great contribution to our knowledge of the history of botany and medicine, the Herbal presents a hitherto unknown version of Dioscorides. For students of medieval Latin and other related vernaculars, the Herbal offers valuable philological suggestions, not only in the names of herbs, but also in many instances of rare words.

Skin Diseases in Children. *By George M. Mackee, M.D., Professor of Clinical Dermatology and Syphilology, New York Post-Graduate Medical School, Columbia University, and Anthony C. Cipollaro, M.D., Associate in Dermatology and Syphilology, New York Post-Graduate Medical School, Columbia University. Second edition. Cloth. Price, $7.50. Pp. 448, with 225 illustrations. New York: Paul B. Hoeber, Inc., 1946.*

Two widely experienced clinicians lucidly cover practical up-to-the-minute aspects of diagnosis and therapy in the important pediatric dermatology field. This second edition is greatly enlarged and rewritten. Clear text and photographs are combined to make a complete useful reference for pediatrician, dermatologist and the general practitioner. It is not useful for reference for the physical therapist. For instance, there is no reference in the index to ultraviolet radiation although the authors recommend its use in various diseases.

Special sections are devoted by the eminent authors to tubercular eczema, erythemia infections, diseases of the mouth, hair and glands, those due to physical agents, parasites, fungi and pyogenic bacteria. There are excellent contributed chapters by Frances Pascher on allergic dermatoses, Eugene Traub on congenital anomalies, Nathan Sobel on contagious diseases, and Herman Beerman on syphilitic infections.

This book can be highly recommended to the general practitioner for its information on cutaneous infections of infancy and childhood. It also is highly recommended as a complete useful reference for the pediatrician and dermatologist.

Synopsis of Physiology. *By Rolland J. Main, Ph.D., Professor of Physiology, Medical College of Virginia, Richmond, Va. Cloth. Price, $3.50. Pp. 341, with 21 illustrations. St. Louis: The C. V. Mosby Company, 1946.*

This is a physiology text for review purposes and is a small book which covers the essentials of physiology. It is presumed that the reader of such a book has some previous knowledge of physiology and clinical medicine. Therefore, the material is arranged in a more logical order than is possible for beginners. In addition the data is restricted to the human wherever possible because the author correctly in a book of this character sees no reason for giving the pH of pancreatic juice of dogs when human data are available or even of mentioning the interesting fact that the dog's esophagus is composed entirely of striated muscle. Therefore, this book is not an encyclopedia of comparative physiology, and thereby does not produce misconceptions in the mind of the student as to conditions in man.

This book discusses the human body as a whole. Brief mention of some physiologic disturbances in disease is made and therefore the normal is appreciated and clearly understood by comparison to the abnormal. The relative space devoted to various subjects has been well determined by the author. He says that he has done this by consideration of various factors, not always by inate importance. These factors include complexity, clinical interest or importance, and that material which in the experience of the author often is poorly understood by practitioners.

The illustrations are few due to lack of space but are usually helpful sketches. References are not given. Proper names associated with diseases and phenomena are not given since the author considers this nonexplanatory and that monumental terminology is a useless mental burden.

This small book can be recommended to physical therapists, senior medical students and physicians as a physiology text for review purposes or to learn what has been added to the knowledge of physiology since they studied the subject.

Dr. W. C. Röntgen. *By Otto Glasser, Cleveland Clinic Foundation. Cloth. Price, $4.50. Pp. 169, with illustrations. Springfield, Illinois: Charles C. Thomas, 1945.*

The enthusiasm that hailed the use of roentgen rays from the publication of Röntgen's first communication (December 28, 1895) has never abated. In gratification for this monumental gift to science the American Roentgen Ray Society, the Radiological Society of North America, the American College of Radiology act as sponsors of this commemorative volume, containing a new translating of the three classic papers on "A New Kind of Rays" and dedicated it to the memory of the discoverer.

One hundred years ago in 1845 Röntgen was born in Lennep, Germany, and fifty years later in 1895 Röntgen discovered a new kind of rays.

Doctor Glasser is peculiarly fitted to write this life of Röntgen because since 1928 he has been writing articles and editing books on Grenz Ray, Röntgen, the Science of Radiology, Physical Foundations of Radiology and Medical Physics.

Glasser has made this an extremely interesting book. For instance, many of us who have had difficult childhoods can be encouraged to read about Röntgen. "A fellow student who was something of an artist chose an unpopular teacher to caricature on the firescreen of the school room. Not being gifted in drawing, Wilhelm greatly admired the ability of his friend and was savoring the full flavor of the debasing representation when his unrestrained enjoyment was cut short by the entrance of the schoolmaster himself, who in a rage demanded the name of the unflattering artist. When Wilhelm refused to reveal it, the director of the institution was summoned, and a series of painful cross-examinations followed. In order that the enraged teacher should be pacified, it was inevitable that Wilhelm, too proud to reveal the name of the real culprit, should be expelled."

To us at this date it seems impossible that in 1896 Röntgen was no longer a middle-aged professor of physics at the University of Würzburg but the focus of international praise, condemnation and curiosity. From all over the world came letters of congratulations and incredulity as well as reports of duplication of the original experiments and a few of failures.

This is an interesting biography of a man who made a fundamental contribution to science. From this new and fascinating study of roentgen rays founded upon pure science, the science of roentgenology and subsequently radiology developed.

Essentials of Chemistry and Laboratory Manual. *By Gretchen O. Luros, M.A., Instructor in Pre-nursing Chemistry, Cass Technical High School, Detroit, Mich.; Instructor in Chemistry for Nurses, Wayne University, and Florence Oram, M.A., R.N., Assistant Director, School of Nursing, Michael Reese Hospital, Chicago, Ill. Science Adviser: Jean Broadhurst, Ph. D., Professor Emeritus of Bacteriology, Teachers College, Columbia University, New York, N. Y. Fifth edition. Cloth. Price, $3.25. Pp. 637, with illustrations. Philadelphia, London and Montreal: J. B. Lippincott Company, 1945.*

The fifth edition of this popular book presents the basic principles of chemistry with applications from everyday life and nursing procedures for the student nurse. It incorporates more and newer applications of chemical facts to nursing procedure. In the unit on ionization, the meaning, interpretation and applications of hydrogen-ion concentration of the blood and other fluids have been discussed in detail, because this factor is of great importance in diagnosing body conditions. Additions have been made to the "Introduction to Organic Chemistry and Important Classes of Organic Compounds" with a section on cyclic compounds, including the lifesaving sulfonamides or "sulfa" drugs. The chemistry of the blood and lymph and its application to medical procedure are taken up in detail. The latest findings on the chemical nature, formulas and physiologic effects of vitamins form an interesting part of this edition. There is also a detailed discussion on the chemical nature of endocrine secretions.

It conforms to the methods of today's schools of nursing. So it contains fourteen units in the text covering inorganic, organic and physiologic chemistry. It is a thorough, but concise text on the essentials of chemistry. It can be recommended as a teaching aid to instructors and as a textbook for the student-nurse.

Journal of the History of Medicine and Allied Sciences. *Vol. I, No. 1, George Rosen, Editor. Erwin H. Ackerknecht, Max Fisch, John F. Fulton and Josiah C. Trent, Board of Editors. Paper. Pp. 179, with illustrations. Price, $7.50 per year in U. S. New York: Henry Schuman, January 1946.*

This is a new journal devoted to the publication of articles relating to all aspects of the history of medicine, public health, dentistry, nursing, pharmacy, veterinary medicine and the various sciences that impinge on medicine. The first number is excellent. This should be a good journal as the editorial board is good and there are 43 consulting editors, all outstanding in their respective countries.

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